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A QUADRANT OF VIEWS

by
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Abstract

The rules of micro and macro analysis are different just as the subject matters of each are different. The assumptions of each, however, are, by the nature of the discipline of economics, not necessarily useful models of any reality which is being considered. The contingent or accidental characteristics of any situation may require a special even unique analysis. This contingency nature of the real situation distinguishes social analysis from physical analysis. Economics and social science generally has tended to neglect the significance of the particular setting.

I

In general large areas of behavior, such as business, which are to be investigated are divided into subareas which, on the surface at least, or by their presumed nature, have significant common elements. This procedure is the beginning of the analytic process. The assumption of significant common elements, and the presumption of the nature of the phenomenon, of course, require testing to justify the initial divisions. Our point is that we get to known about phenomena by analytic insights. Only then can synthesis lead to a holistic appreciation. To grasp the unity, the *gestalt* at once is rare in social science research and understanding. The phenomenon in question is divided into parts, the relations among the parts

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hypothesized and then tested in a series of « go rounds ». Only then is the bigger unity adduced. In short, analysis requires an elaborate hunch-inductive-deductive method. The purpose of this paper is to suggest the theoretical support for a synthetic planning discipline.

In investigating business, our present concern, a firm or market is often chosen as the subject of the inquiry. But business, *in general*, and markets *in general*, too, may be the subjects of inquiry. Especially since the *General Theory* of Keynes, the division of the world to be analyzed as « micro » and « macro » has been a common division. This is because the order, rules, and reactions (if they are, in fact, subject to useful and meaningful generalization) of micro units and macro systems are significantly different. Indeed one might argue that the two aspects of (1) business in general, comprehending total market behavior, and (2) business in particular i.e. a firm or even an industry are quite different. That industries might have peculiarities or even uniqueness when compared to other industries, or firms when compared to other firms, or even macro systems when compared with other macro systems e.g. European markets compared with American, or underdeveloped countries when compared to developed countries, gives rise to investigations which fall outside the traditional and formal micro and macro undertakings, although related to them in content and technique.

The analyses of phenomena which are not comprehended by the more traditional micro and macro analyses often incorporate in the study institutional or other factual data peculiarly related to what is being considered. For example issues in, and facts of, land ownership, banking functions and religious matters may and do find their way into so called « country studies » of less developed countries. Such considerations, as peculiar inclusions, are not required of traditional analyses of developed countries because they are well known to analyst and reader, or they are irrelevant. For example religious or political considerations are usually of small importance in analyzing capital markets or the production policy of a firm in the European or American contexts, but may be of importance in analyzing similar phenomena in Chad, Nigeria, Saudi Arabia or Poland. Such normally extraneous considerations may become significant in analyzing a western economy if, for example, there is a significant political change in being or in the offing as in France before and after President Mitterand or the U.S. before and after Mr. Reagan's term of office.

Our major point is that phenomena to be studied are broken into parts somehow believed to be relevant; and the parts are investigated as having a bearing on, and connections with, each other. Insight, an important

device, is largely grasping persuasively significant relations among parts, relationships hitherto neglected or overlooked. Analysis is systematic and assumes an ordered system. The system is not necessarily holistic, by which we mean the system or synthesis of parts does not necessarily make up the system or synthesis of the great whole. To know how apples grow and apple trees prosper does not give much insight into how an apple orchard is maintained and successfully operated. A fine arborist may not know much about running a tree farm.

As an aside we may remark that the goals of the firm — profitability, perpetuity, saleability, and acceptability are not the goals of the economy — to wit general income, general employment, general stability, and general growth. It is not that micro unit analysis conflicts with macro analysis; it is that they are different phenomena, with differing assumptions and analytic techniques.

Analysis, it seems to us, for large or small units, is most effective when applied to historical, which are often statistical, data. History is not always well known. Knowledge about history depends often on analysis which to be effective would have had to know all about what is being examined. But then the analysis would have been unnecessary. Because analysis provides interfact relations (relying on hunch, deductive and inductive methods), one can never be certain that all the relevant relations have been explored, or all relevent facts adduced and insights exhausted. The rich often conflicting discussions of religion and capitalism have not resulted in conclusions which persuade everyone. In business and economics, analysis is so often statistical and there is a feeling, often unjustified, that the data are accurate enough and the technical analyses effective enough to provide knowledge which is sufficiently certain to provide in turn reasonably valid conclusions about such diverse matters as future behavior, market structure or effective managerial organization. Obviously micro conclusions are not likely to be so generally significant as macro conclusions and decisions. A wrong macro decision, if acted on might be disastrous, but fortunately the opportunities for macro controls in our society are much more rare than for micro decisions. Macro and micro systems ideally are of time 1, time 2, and so on, with $t_1, t_2 \ldots t_n$ being successive or close to each other in calendar time and after abstracting from regular that is seasonal, cyclical or secular changes. The analysis is periodic.

Herein lies the rub, a rub which applies both to macro and micro analyses: the time of the application of the conclusion, the decision based on the analyses, may not at all be homogeneous with the time environment

of the analysis. Granting we have abstracted from regular changes, but should we not be concerned with the very nature of the setting in which a micro or macro decision will be placed. Some very short period expectations e.g. day to day change in the stock market are probably less stable than the intermediate e.g. annual sales expectations for many business. But the setting for longer range expectations may vary widely from the realities of the past.

There is an agreement that if t_1 and t_2 or t_n are sufficiently widely spaced, the findings of t_1, by findings we mean relationships between parts of a system, will not often be valid in t_2. Changing technology is considered by some analysts to invalidate analyses which assume the continued use of technologies already in place. Other analysts assume ideology and changes therein make an analysis based on data of the past suspect or invalid when applied to the future. We feel both points of view are justified by experience. In the brief space of a decade, for example, the employment pattern of American industry changed because of legal and ideological changes relating to the employment of women and other groups defined by race or degree of physical handicap. Similarly the development of the micro chip, and user and industrially friendly computer devices, have changed the relative prices and production fashions of such varied efforts as the manufacture of calculators, timepieces, the banking and securities business and the teaching profession. Similarly medicine and health services have been changed by new technologies in a decade or less.

What we are suggesting is that (economic) relations may undergo organic change of serious significance in short periods of a decade or less. The environment of exchanges, of course, may change hour to hour or day to day but nevertheless with trends lasting 5 months to several years. In this circumstance what was true at t_1 may have no or little relevance to t_2. But we are suggesting more than such changes.

At t_1, let us assume, there is a certain set of relations among variables. On the macro level of analysis, a large public deficit may occur along with higher than normal interest rates, a large public budget, low savings and investment, etc. The relationships are many and provocative because alternative possible causes and effects are suggested, and alternative causes and effects seem to explain the course of current events. There is the the extension of the current course of events to the future. The shape of the future in turn is deduced from the observed or expected new or old sets of relationships. During 1980-81-82-83 nearly all concerned people guessed how the public deficit would affect interest rates, how tax policy might affect the price and production levels, and so on. All could not be

right at the same time because the analyses and projected conclusions varied widely on such matters as price level, investment, employment, and government revenues. Yet each *might* have been correct given some *special* set of relations, based on ideology, technology or simply new relations among old variables. For example if, for one reason or another, builders expected a boom in building and acted on their expectations, mortgage rates might have risen or not, depending on how mortgage lenders, banks and mortgage companies sized up the future. If these lenders thought the future to be bright because of the enthusiasm of borrowers, the risk premium on loans might have fallen, and in the face of an increase in demand, prices might have not risen. To the degree that lenders to lending companies shared the euphoria, the supply of savings might have increased.

On the other hand if bankers and mortgage companies did not share the euphoria or at least feeling of prosperity being around the corner of the building industry, a building boom would *not* have evinced itself. (Herein is contained Keynes' «animal spirits», which we slightly dignify as ideology).

Another hypothetical example would be that bankers have sufficient reserves to increase their lending. Borrowers, however, are unwilling to borrow in great quantities because they believe that future will be gloomy. The threat of cost inflation, the general lack of lively animal spirits, or what not, are depressants. The public budget deficit was probably such a deflator of animal spirits, more as a matter of ideology rather than technical perception. Risk then permeates the business community. The result is the bankers are affected by the fear and raise their offering price for funds.

Why, one might ask, were not the bankers equally affected by the fear of stagflation as were the borrowers? To an extent, no doubt they were, or would be in our hypothetical example. But, generally speaking, banks seem to be willing to lend without the same strength of inhibition which business borrowers exhibit in borrowing. The loans to Third World and Soviet Bloc nations are a case in point. One did not have to have the learning and insight of a David Ricardo to set that such loans in the '60s and '70s were not likely to be easily serviced and repaid. On the domestic scene the loans made to, and rates charged for, home mortgages, farm equipment, and other undertakings in the '70s made sense only if inflation became a way of American life. The borrowers who paid the high rates to banks were at the effective margin and probably not the traditional business borrowers. The proof, one supposes, is in the over 10% unemployment and declining real industrial output of the late 70s and early 80s.

On the other hand, if banks, for one reason or another *reduced* lending costs, the reaction would be especially great in such generally small endeavors as home building and buying and other speculatively oriented activities. Our guess is traditional business borrowing would increase, but more slowly and hesitantly than the two areas we suggest.

What we are saying is that various perceptions of the significance of economic and business realities may have varying kinds and degrees of importance for various actors at several time settings. A large public deficit looks different in its size and potential effects if industry is working at 40%-60% or 80% of capacity. A wage « giveback » i.e. voluntary reduction in wages, has quite a different effect and cause, if a firm is on the verge of bankruptcy (Chrysler in 1978-9) or if industry *generally* is in a slump. The perceived setting of the firm and the economy justify or even require cause and effect relationships which could not be justified nor required under other circumstances.

It then follows that what was found to be a reasonable, persuasive analysis of t_1, might be neither reasonable nor persuasive at t_2. Now if t_1 and t_2 are close, say, for most ordinary business situations a month or two apart, and seasonality and cyclical changes are abstracted, t_1 and t_2 may be considered as psychologically, ideologically and in general, homogeneous. But the homogeneity cannot always be assumed because exogenous variables can play hob with expectations even in the short run. The Reagan 1984-5 military budget, a big element in the expected deficit, became much more acceptable after KAL007 was shot down than before.

II

Now we may turn our attention to ideology as an index of expectation.

People are motivated to act by their passions and by their interests [1]. Passions are not rationally based, although the means to achieve them may be rational. The belief in a particular theology, kind of government, or love of a particular society, class or state is not always, or perhaps ever, legitimated as enriching or assuring power to a person. Yet the passion may be adhered to at great personal cost. Interests are more specifically defined in the light of services and goods, of wealth and power. People strive by rational, as well as nonrational means to achieve the goals of their interests.

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[1] Albert O. HIRSCHMAN, *The Passions and the Interests*, Princeton, 1971.

Together the interests and the passions as goals and their attendant means constitute, in our language, the ideologies of individuals or of society. Ideologies are values in action. We stress action, for a belief about which nothing is done by the individual or the society and its segments are but beliefs, inert, inactive, and mildly flavor the legitimation process which individuals and societies use to justify behavior or its lack. But ideology is active. It legitimates and motivates action outside the ordinary, thus giving social and private behavior their flavors.

Passions and interests, which is to say ideology, are bonds connecting the past and the future. But because they are connective social tissues does not assure or even suggest that the past is connected to similarly effective social organs of the future.

III

Some periods of history are less given to changing internal relations and changing values than others. Societies do have internal dynamics, and do respond to exogenous forces. The dynamics of change and the exogenous forces are felt by and, from the social point of view, through people and their ideological reactions.

In brief we are suggesting that the immediate causative force in social life is the minds of individuals. We realize that this is a point of view perhaps more agreeable to the nineteenth century than to the late twentieth. John Stuart Mill, his father, and the intelligencia of the period could more easily accept the role of social thinkers as defining the parameters of morality and politics than social thinkers 50 or 100 years later when legitimation tended to be « scientific ».

After Darwin and after the enormous success of physical science in explaining how the world really works, the role of the middle or upper class intellectuals as legitimating social behavior declined, in fact as well as in the minds of such leadership. Forces, social or physical, tendencies arising from the confluence of physical or observable events, statistical probability become powerful legitimations of social behavior. Not that social forces were shown to be divorced from the passions and the interests. On the contrary. Technology as a great power was and still is stressed by many thinkers, other than Marxian. Interest however has shifted from self interest to class interest to become a social force, and legitimation by democratic forms became itself a passion rather than a logical interest (2).

(2) C. West CHURCHMAN, *Challenge to Reason,* McGraw Hill, 1968.

This reliance on form rather than substance or motive is seen constantly in the political sphere. Autocratic and totalitarian regimes claim to be « Peoples' Republics », a democratic legitimation, or to prove legitimacy by showing the government was elected, regardless of how rigged the election was or if the programs and policies on which a regime was elected are programs and policies of repression and violence against many people. The current distinction between autocratic and totalitarian states, as the former being tolerable and the latter bad, is a strange distinction for politically sensitive people and administrations to make at the end of the twentieth century. The promulgators of such a view must have scant respect for or concern with people as individuals. To consider foreign or public policy of the U.S. as independent of people — foreign or American, is to treat policy as a « force » having a significance over and above its effect on people. It is, one might say, a twentieth century fallacy. The U.S. Marine officer who destroyed a Vietnamese village in « order to save it » was a child of his time.

Events only have meaning as they affect people or, as an older philosophical view would have it, affect the sensory apparatus and thus mind of a person, God being the ultimate recorder of trees which fall in the forest when no human is around to hear or see them fall. But in a more matter of fact setting, if something occurs either in the course of a usual sequence of events or as a novel event, unless it has sensory or intellectual meaning for someone, preferably more than merely one, it is a non-event. When noxious chemicals were placed in the unused ditch which once was the Love Canal, it was a usual disposal effort, soon to be a non event. However when the disposal, years later, was related to effects on people, the whole analysis and significance changed. The non event became an event of momentous significance not only to those immediately involved, but to the whole nation, affecting national policy, which is to say awareness of many people, including those in high places. The reality, slow to be realized, it took almost a decade, was not a reality because of the political party in power, or because the regime was totalitarian or what not. The relevance of the reality was its effect on people and on their thinking and perceptions.

IV

What we are suggesting in this discussion is that the long run and the short run, for more useful general social analysis, be divided into the past and the future, with the present, as an ever advancing historical edge.

One result of such a time division would be to direct attention to questions of deviations (in calendar time) of phenomena, and of the time duration and time elapses in the various past events becoming effective after some causative changes were introduced. Once time becomes an explicit variable, the process of change and realization become more obvious or at least more likely to be noticed. Frustrations between cause and result would also probably be more exposed. If, for an example, a firm offers an article for sale at $X, and while the product is being produced, stocked and delivered a competitor offers a substitute at $1/2 X, the original price plan is likely to be frustrated and the offer price changed. This surely happened when a computer company offered a small computer at a price only to have a large company, untruthfully it later turned out, declare it too, had a small computer in the works, and it would be sold at a lower price than the real, live computer was offered for. Analytically the traditional long run-short run breakdown, we feel, while statically useful, may lead to confusion in the day to day, week to week analysis of events in the market, factory and laboratory. The specific real event is never exactly like the theoretical one. To rely entirely on theoretical abstraction to gauge the future is, in our opinion, folly.

Statistical analysis, in its various aspects, usually permits of a more pointed analysis than general micro or macro abstractions. Statistics deals, among other things, with measures of central tendency. Heights, weights, business activity, prices are expressed as average or tendencies over time with probability wrappings. An increase of G.N.P. by a given percent will probably affect the tax take of the federal tax system, say, by one and half a percentage points greater than the GNP increase, and state revenues by one percentage point, and local revenues by a smaller relative increase. No one expects the realized numbers to exactly equal the estimated amounts. There is a probability wrapping.

We suggest that for many purposes this approach is proper. We also would make two additional suggestions.

(1) The errors about the estimated values may or may not be random at different times. That is to say at t_1 the assumed model may be appropriate (properly specified) so that the distribution of the errors about the estimated value or values are randomly distributed. But at t_2 the errors about estimated values may not be random, indicating that relevant relationships are not fully contemplated by the model. This is of great importance, we hold, because in a complex, dynamic world the role, causative or otherwise, of a variable may change. For example, as we pointed out earlier, the deficit of the public budget and interest rates, has

diverse effects depending on expectations, state of the economy, and other factors.

The second suggestive observation we would make is more basic. In our thinking we distinguish between disciplines which are concerned with invariant, or largely invariant relations as physics and chemistry, and disciplines concerned with organic life e.g. botany, medicine and zoology. These latter disciplines merge into the social disciplines such as economics, politics, anthropology and psychology. The lines are not sharply drawn for those who work at the margins of the first two, and at the margins of the third and second. We are not suggesting a Comtean hierarchy, but only that the fields of study are divisible like Gaul into 3 parts, or like the U.S. into 50.

Our point is that in what we generally consider the social disciplines, great care be exercised in making generalizations which purport to be valid over time. And further that we suggest that the resort to the idea of force be limited to a metaphorical use. All experience keeps telling us that the regular and limited behavior of the physical and organic side of the experiential spectrum is not matched by similar regularity and limitation on the social side.

V

This is not to say that the social experience is not ordered. Indeed the mind imposes an order which we posit as real and, so far as we can determine, there are (alternative) orders of behavior on the social scene legitimated largely by their persuasiveness. We say « orders of behavior » because we believe that cause and effect always operate, but in different settings, either ideological or real and experimental. A cause in one setting may produce different effects than in other settings. The perception of the setting, its evaluation as well as its reality, are of greater significance, in our opinion, in social analysis than in physical, while in organic matters generally, the role of the setting is more important than in physical matters and dynamics. Gravity operates regardless of whether the observer is post or pre Newton. But the way a price system works differs in societies with different ideologies.

Perception, in social matters, is a powerful factor in determining behavior, ultimately personal behavior. Actions, decisions, gains and losses, in general, are ultimately personal. Group action occurs when, for one set of reasons or another, many or some people act in concert. Such actions

may spring from the reactions of individuals or be imposed; but imposition is also a measure of individual behavior. Individuals do deny the causative nature of imposition in some circumstances. In a dramatic sense Bonhoffer gave his life rather than conform to Nazi pressure. In a less dramatic sense a big fraction of voters, even in a fairly lopsided election, usually vote for the losing candidate.

The law or rule in social analysis is rarely more than a statement of a tendency of behavior. People, in a decision making mode, rarely *all* or even in overwhelming proportions make identical decisions. In the stock market, quantities bought and sold are necessarily equal, and usually a small change in price will call forth additional offers of purchase and sale. The numbers of traders on each side of the trades, in this case is not important, their control over numbers of shares is. The decision to buy or sell is in this case made, generally speaking, in terms of price. A buyer at instant one may become a seller at instant two. When a number of buyers or sellers who are willing and able to marshall large sums of money decide to buy or sell, the concerted action seems like a mechanical law. From our viewpoint it is more correct to see the phenomenon as a psychological action of a number of individuals who are able to buy and/or sell large quantities of a security. The buying or selling are based on decisions which in turn are based on current perceptions about the future. Theory, gossip and reliance on leadership play roles in making people think and act similarly.

VI

This general approach to social phenomena tends to make perception, a psychological process, and decision making, again a psychological phenomenon, central. Leadership and followership, as social phenomena, are then easily adduced as additional psychological phenomena in the decision making process, which operates, although with different inputs and outputs at the micro and macro levels.

Control over the real and psychological environment, power in the usual sense of that word, then becomes a central idea of social activity, whether personal (micro) or more general (macro) ([3]). Leadership, the

([3]) Cf. William JAMES, « The Will to Behave », in *Ten Great Works of Philosophy*, R. P. Wolff ed., Mentor, 1969.

ability or power to secure conformance, legally constituted or otherwise constituted (e.g. illegally as by threat and coercion, or by status and class, or by education, training and title) is the recognition of control *by those controlled.* Followership is the social habit of conforming behavior to the signals of leadership. A discipline of the sociology of management or business, and a discipline of the sociology of economics or markets, presumably would analyze these phenomena in the light of leadership and followership, power and control. Such disciplinary efforts are in short supply.

One should not expect regularities of group and personal behavior taking place if the setting is altered by changes in the power system. Individual action is not immune from control and power systems which are the settings of behavior. Judgement is an integral part of the setting. The control over a soldier in barrack life is different from the control over the same man on a bathing beach with his friends. The former is more rigid and demanding than the latter. The decisions made on the stock exchange are not necessarily affected by the same psychological forces as decisions made by the same person in considering the financial and educational setting of a son or daughter. Yet the sum and interactions of personal decisions similar to those affecting sons and daughters may be ultimately exercised in the stock market. The consideration is that a child's education which includes costs and personal consideration is simply different from the rules of investment although the two are related in goal. Control, as judgement, is at work in these cases. The capacity by an outside force to induce a given behavior is power. The army, conventional rules, the police, ethical values, these are power manifestations. The role of personal judgement in the action is not always of obvious significance.

If the setting of a decision and the depths of the setting in psychological needs, wants, goals and legitimations, both personal and social, are very powerful, it would seem to follow that any idea of *rational expectations* is an empty phrase if the rationality, power and skill components cannot overcome the setting. Knowledge, motive and goal, in our conception, adjust fairly quickly if not necessarily minute to minute or day to day. But market power relations, in short, the settings of behavior over time, are not constant like the speed of light or Keppler's Laws. One of the great tasks of economics and political science is or should be to define and explain the settings hypothesized by each discipline, and the dynamics of such settings.

VII

To this end we suggest the development of an additional social discipline, Synthetic Planning. We use the word Synthetic rather than Strategic because we are stressing the synthesis of analysis rather than the devising of a master plan. Strategy and tactics derive from synthesis and analysis. Synthetic Planning (S.P.) like decision under uncertainty theory (a fairly micro discipline) is based on the assumption that the future will *not* be like the past. However, the future, specifically the future relevant for the purposes at hand, may be at least vaguely defined in a better way than by mere guess, hunch, or what is worse, by assuming the future will be a replication or almost a replication of the immediate past.

Let us assume a firm desires to make forward investments, over the next 5 years, to last at least 20 years. The inventory of investments in place, of currently available skills, etc. are known. The present state of markets is known. What are not known are (1) the market setting or better probable alternative settings of the future and (2) the likely desires of owners and managers of the firm in the future. To some extent (2) is controllable. The organization, its ideology and structure are in part, possibly large part, within the power potential of managers. After all 20 years is not an infinity, it is less than a generation, and the choosing of managerial personnel and its training are within the control, at least presumed control, of present management.

It is the market, the outside, which acts as if it were independent. Some control, however, is possible via advertising, lobbying and research and development. Matters of demography can be analyzed and extrapolated. Political, social and fashion tendencies can be analyzed and extrapolated, and alternatives hypothesized. Extrapolated is the hard word, for extrapolation cannot mean mere extention of the past to the future. In short S.P. is or will be the act of estimating what the relevant future might be like insofar as a particular activity is concerned. A firm might decide to expand, change its nature, do nothing, go out of business, etc. A government would have a basis for expectations with respect to taxes, expenditures, war, peace, development, and so on.

In short S.P. would convert analysis, mainly an historical tool for exposing a relevant sector of the world to synthesis, a future conception, or state of conceptions of the relevant world. Control of the future is not, or in our opinion at least should not be considered as a major purpose of S.P.

The future has a will of its own which cannot easily be subdued, nor should it be subdued for the benefit of a firm. The ideal is to suggest a few

alternative settings which have some probability of occurring, in some general and rough fashion, so that an institution moves into the future with some guidance. To some degree S.P. may suggest control and power but the very size of the world, its complexity and above all its capacity to change dynamically, discontinuously, and by addition and deletion, make any widespread attempts at controlling the future by conscious planning likely to fail. This is especially true if the attempts are directed toward controlling and redirecting social values and undertakings normally legitimated by the society and its parts by formal democratic means and informally by discussion and debate. Such attempts, in important matters would be a monstrous social wickedness, an enormity against decency.

As in all decision making, analysis, and synthesis, S.P. must be tested and amended by judgement. Judgement in this sense is testing and legitimating conclusions and reasoning by the legitimation of experience, wisdom and ideological values which, in each case, are not themselves analysed. The judgment process is in this context the final approval, disapproval, emandation or substitution by leadership, and the acceptance by followership. There is no substitute for judgment as legitimating analysis and synthesis ([4]).

Conclusion

It seems then that the traditional divisions of economic thinking into:

1. Micro
2. Macro
3. Long Run
4. Short Run

do not provide a realistic dynamic of changes taking place in time, that different events and connections require different calendar periods of elapsed time, that exogenous variables are almost always active, that the ideology and changed structure affects the perceptions of the actors. A model or system based on the four divisions suggested above is not satisfactory as a guide for the future. The four divisions above are essentially static.

([4]) Kenneth BOULDING, « The Verifiability of Economic Images », in S. R. KRUPP, *The Structure of Economic Science*, Prentice Hall, 1966.

A Synthetic Planning framework probably would 1) exclude what seems to be irrelevant micro and macro likely developments and 2) attempt to examine and « think about » the interaction of activities of the separate disciplines of the past. This would lead to trying to imagine their interactive persistence in the future. For example how did record keeping and inventory control, via the computer, affect production planning, and how did computer regulated production affect sales and inventory practices? This and similar interactions have been major interdisciplinary transfers which have *not* been well integrated into the business disciplines. How such possible and probable interactions might occur in the future, given possible changes in technology and ideology are suggestive for Synthetic Planning.

The idea of interaction thus would be expanded from experience within one of several firms to interindustry and inter institutional possible experiences. For example health care techniques not only induced reorganizations of medical facilities but also generated ideological and legislative changes e.g. abortion, organ transplants, and kidney dialysis. How suggestive are such developments?

The interactive idea, we suggest, is at the heart of Synthesis, as are technology and ideology.

Useful advice and guidance are essentially pragmatic, in the light of probabilistic settings. To secure such probabilistic settings we suggest that Synthetic Planning be used. It is the least bad of the alternatives, for time, as event, is made to cut across the static-dynamic universe, and the future is partially, if awkwardly, converted into history.

UN QUADRANTE DI MODI DI VEDERE

La microeconomia e la macroeconomia differiscono quanto a contenuti e a tecniche analitiche impiegate. Nelle situazioni reali, com'è ben noto, l'insieme di assunti su cui si fonda l'analisi è piú limitata rispetto ai fatti della realtà. Questo è necessario se l'analisi (o la teoria) deve essere generalizzabile e attenta esclusivamente all'essenza o alla natura del fenomeno. Tuttavia, restringendo l'insieme degli assunti, condizioni significative, fatti e relazioni importanti vengono spesso trascurati, sicché l'analisi è logicamente ineccepibile ma non ha validità né utilità. Ciascuna situazione ha le proprie peculiarità e aspetti unici e non è possibile escludere, in forza delle ipotesi adottate, che tali peculiarità e unicità possano essere vitali o quanto meno significative nel modo in cui una determinata situazione si svolge. Un determinato fattore, per esempio un deficit pubblico, può avere un ruolo assai diverso in una situazione di elevata disoccupazione anziché in caso di inflazione o in una condizione di stagflazione.

I giudizi sintetici ricavabili sulla base delle procedure analitiche consuete possono dunque rivelarsi poco attendibili a causa di significative intromissioni di circostanze particolari o accidentali.

L'epoca presente, contrassegnata da episodi di disordine economico, politico e sociale, diminuisce la fiducia nei confronti della capacità dell'analisi tradizionale nel condurre a conclusioni valide e a giudizi normativi adeguati. La validità decisionale pare suggerire una impostazione piú attenta al contingente in tema di politica economica pubblica o privata. Il quadro della situazione da analizzare è di estrema importanza, a nostro avviso, a fini di analisi e per il raggiungimento della sintesi.

Nel diritto americano la natura contingente della regola di legge può essere ritrovata nella distinzione tra la regola in sé e la regola razionale. La regola in sé afferma che certe azioni, per esempio la collusione, sono *sempre* illegali. La regola razionale afferma il concetto di giusto e d'ingiusto sulla base delle conseguenze rispettive di decisioni alternative. Le decisioni economiche, in particolare, hanno a che fare col tempo e l'incertezza del futuro sembra richieda tanto forme di pianificazione strategica (ossia valutazioni della macrorealtà del futuro) quanto forme di pianificazione sintetica (ossia stime delle diverse microrealtà).

THE POLITICAL BUSINESS CYCLE AND INVESTMENT FLUCTUATIONS IN FRANCE

by
JOSEF C. BRADA (*)

Abstract

Writers on the political business cycle argue that politicians use expansionary monetary and fiscal policies prior to elections in order to promote prosperity and consequently ensure their reelection. However, if the rational expectations hypothesis is correct, the public should become aware of this regularity in government policy. In this paper, we employ data on France to show that investment falls in electoral years. This suggests that French investors recognize that pre-election prosperity is artificial and that post-election austerity will reduce the returns on current investment.

I. *Politicians and Economic Policy*

In recent years two new and fruitful avenues of research in macroeconomic have evolved. One of these is the endogenization of policy makers in macroeconomic models. Although the work of Frey and Schneider (1975, 1978a, b) represents the most complete empirical endogenization of economic policy-making, it is the work of Nordhaus (1975) on the political business cycle that seems to have captured the imagination of the profession and of the public. The theory of the political business cycle developed by Nordhaus and further elaborated by MacRae (1977) assumes that politicians will manipulate the economy in such a way as to maximize

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the votes cast for the incumbent party ([1]). The electorate is assumed to respond to prosperity and high levels of employment by voting for the party in power. Consequently, in the period preceding an election expansionary monetary and fiscal policy are employed to stimulate the economy. After the election, monetary and fiscal policy become restrictive in order to deal with the inflationary trends that result from the pre-election boom. Thus, policy is to some extent endogenized and tends to be the source of economic fluctuations.

The evidence for the existence of a political business cycle is mixed. Nordhaus examined unemployment rates for a number of industrialized democracies. He found no evidence of such a cycle in Australia, France, Japan and the United Kingdom. The pattern of unemployment in Canada, the Federal Republic of Germany, New Zealand, Sweden and the United States did support Nordhaus' hypothesis of the existence of a politically induced cycle in economic activity. The work of Frey and Schneider for the United Kingdom and the United States (1978 a, b) also suggests that when the incumbent party's lead falls below an acceptable level, expansionary monetary and fiscal policies are employed to stimulate the economy. In the case of the United Kingdom, they also found that the balance of payments situation has an important influence on the willingness of the government to employ expansionary policies. Amacher and Boyes (1979, 1982) also find some evidence of a political business cycle in the United States and argue that such cycles are less severe in parliamentary systems with variable election periods than in those with fixed electoral intervals.

As at least one writer, McCallum (1978), has pointed out, the existence of (though not the incentive for and effort to create) a political business cycle is inconsistent with the other new trend in macroeconomics, rational expectations ([2]). McCallum argues that if the rational expectations hypothesis holds, « ... regular attempts by the authorities to manufacture election-time prosperity will be anticipated by private consumers and firms, and the real effects negated » (p. 505). McCallum then goes on to examine the pattern of unemployment in the United States from 1948 to 1974 and finds no evidence of a political business cycle.

([1]) One can also assume that politicians will behave so as to maximize the probability of re-election as do Frey and Ramser (1976). While the long-term implications of such behavior are somewhat different, the possibility of a politically inspired-cycle remains. For a review of the evidence on the relationship between economic conditions and voter behavior, see Amacher et al. (1979).

([2]) See Muth (1961) and Sargent and Wallace (1975).

II. *Investment and The Political Business Cycle*

The rational expectations hypothesis does not, as McCallum points out, preclude politicians from attempting to manufacture pre-election prosperity. Thus it does not invalidate, for example, the findings of Frey and Schneider (1978 a, b) that parties in power do indeed resort to expansionary policies when their popularity wanes. However, it does imply that real output and employment will not be influenced by such expansionary policy, although there may be some monetary consequences. In a simple Keynesian framework with « sticky » prices represented by Eq. 1

$$GNP = C + I + G \qquad \text{Eq. 1}$$
$$C = a + b\,(GNP - T)$$

Where GNP = real output
C = real consumption
I = real investment
G = real government expenditures
T = real taxes.

Any anticipated increase in G will be offset by corresponding decreases in C and I thus negating the effects of the government policy. The objective of this paper is to test whether, in fact, such counter-cyclical fluctuations exist. Since investment outlays are generally more volatile than consumer expenditures we focus on the former ([3]).

Our hypothesis is that if politicians regularly attempt to stimulate the economy prior to elections and if investment decisions reflect knowledge of this behavior, then investment should decline during electoral periods. This will occur because investors will recognize that current profits and operating levels are temporary and will be followed by a post-election slump. In contrast if investors do not utilize knowledge about the political business cycle, investment outlays should be pro-cyclical, rising with the pre-election prosperity. If pre-election declines in investment do exist then we can conclude that politicians do attempt to manufacture a political business and that investment decisions are guided by rational expectations. However, we cannot conclude that counter-cyclical fluctuations in investment prevent the government from improving business conditions prior to elections. On the other hand, if no pre-election declines in investment

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([3]) Perhaps more important for the purposes of this study is the fact that investment decisions reflect to a greater extent than do consumption decisions the expectations of economic agents regarding the future state of the economy.

are evident then either there is no effort to manufacture a political business cycle or investors do not make use of the regularity in government fiscal and monetary policy to formulate their investment decisions.

III. *Empirical Results*

To test the hypothesis that investment activity in France has been anti-cyclical vis a vis the political business cycle, Equations 2 and 3 were estimated for the period 1955-77 (4).

$$INV = f(GNP, INT, INFL, FORI, ELECT) \quad \text{Eq. 2}$$

$$INV = f(GNP, RINT, FORI, ELECT) \quad \text{Eq. 3}$$

where

INV = gross investment (bill. $)
GNP = gross national product (bill. $)
INT = nominal short-term interest rate (%)
INFL = annual rate of change of the *GNP* deflator (%)
RINT = *INT* − *INFL*
FORI = capital inflows from abroad (bill. $)
ELECT = dummy variable = 1 in years of national election, or otherwise.

Parameter estimates for Equations 2 and 3 are reported in Table 1. Of the economic variables, the coefficient for *GNP* is positive and significant as expected. The interest rate, inflation and capital inflow coefficients are not significant at the 5% level. This is consistent with other findings of the relative insensitivity of investment activity to the rate of interest and the relatively high ratio of domestic investment to foreign capital inflows.

Of greater importance to our hypothesis is the coefficient for the *ELECT* variable. In both Equations, the coefficient has a value of −0.71, indicating that during an election year investment expenditures are $0.71 billion less than they would be in a non-election year with the same economic climate. Thus our hypothesis that investment behavior is counter-cyclical vis a vis the political business cycle is confirmed. French investors appear to have recognized the proclivity of politicians to attempt to manufacture pre-election prosperity and respond, as the rational expectations

(4) Data on economic variables were obtained from OECD, *Statistical Yearbook* (various years) and IMF, International Financial Statistics (various years). Dates of national elections were obtained from *The Statesman's Yearbook*.

TABLE 1.

PARAMETER ESTIMATES FOR EQUATIONS 2 AND 3
(gross investment, 1955-77)

Variable	—	—
Constant	−1.7382 (0.8926)	−1.7358 (0.8653)
GNP (bill. $)	0.2414 (0.0099)	0.2420 (0.0046)
Inflation (%)	−.3705 (0.2473)	—
Nominal Short Term Interest Rate (%)	0.3875 (0.2321)	—
Real Interest Rate (%)	—	0.3799 (0.1930)
Capital Inflows (bill. $)	−0.0043 (0.6021)	0.0072 (0.5574)
Election	−0.7102 (0.3987)	−0.7067 (0.3834)
R^2	.9969	.9969
$D\text{-}W$	1.1025	1.1223

hypothesis predicts, by reducing the volume of investment outlays. Consequently, Nordhaus' failure to find in French unemployment data any evidence of a political business cycle cannot be construed as a demonstration that politicians do not attempt to manipulate the economy to their advantage. Rather, when combined with the findings of this paper the available evidence suggests that while politicians do attempt to manipulate the economy, their efforts are frustrated by the reactions of the private sector. Although the efforts of politicians to influence the economy in the short run are futile, it is important to note that they do have an adverse long-term effect on economic welfare. This is because the declines in investment caused by politicians' stimulative efforts are not likely to be made up during non-election years. Thus as the result of efforts to manufacture a political business cycle, the French capital stock is smaller than it would be otherwise and both the level and growth of *GNP* are also less.

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IL CICLO POLITICO E LE FLUTTUAZIONI DELL'INVESTIMENTO IN FRANCIA

La letteratura sul ciclo politico sostiene che i politici tendono ad impiegare politiche monetarie e fiscali espansive nei periodi che precedono immediatamente un'elezione allo scopo di promuovere prosperità e assicurarsi la rielezione. Nel periodo post-elettorale invece la politica economica diviene restrittiva al fine di controllare l'inflazione. D'altro lato la letteratura sulle aspettative razionali indica che comportamenti regolari da parte delle pubbliche autorità vengono

notati dalla gente e influiscono sulla formazione delle previsioni circa le condizioni economiche future.

Se vale dunque la teoria delle aspettative razionali, *ceteris paribus*, dovrebbe verificarsi una caduta del volume d'investimento in epoca pre-elettorale, giacchè gl'investitori comprendono che al clima economico favorevole sperimentato al presente, subentrerà tosto l'austerità post-elettorale a ridimensionare il rendimento degli investimenti. E' quanto in effetti sembra avvenire, secondo la dimostrazione empirica offerta dall'autore, nel caso francese. Le stime compiute in questo lavoro indicano che in Francia, nel periodo 1955-1977, in anni elettorali l'investimento è risultato minore di quanto altrimenti sarebbe stato. Sembra dunque che gli investitori anticipino effettivamente gli sforzi dei politici al potere per stimolare l'economia presso la scadenza elettorale e di conseguenza agiscano in modo da vanificare quegli sforzi.

A CRITICAL VIEW OF STUDIES EXAMINING THE PERFORMANCE EFFECTS OF THE SEPARATION OF OWNERSHIP FROM CONTROL

by
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Abstract

In this paper a number of criticisms of empirical studies examining the separation thesis are raised. Fundamental among these are that most previous studies have confined their samples to very large firms, and have not tested for the sensitivity of results with respect to firm size and definition of management control. A sensitivity analysis of Australian data reveals that almost any conclusion may be reached depending on the samples and definitions employed. It is concluded that even when differences in performance are uncovered, little light is shed on the reasons for this, hence a new approach is required.

I. *Introduction*

For some time economists have debated the issue of whether the « traditional » theory of the firm needs to be supplemented or supplanted by new theories which have speculated on the performance consequences of a separation of ownership from control. Both sides presented powerful arguments which were founded on observations of real-world processes, yet neither seemed to be able to develop a view of the world which could

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be accepted by the other (1). Clearly, it seemed, further resolution of this matter would have to be sought through empirical, rather than theoretical debate.

However, empirical studies examining the relationship between control-type and company performance have not been able to demonstrate a clear pattern of behaviour. This, in turn, has spawned a new debate on the validity of alternative tests of the central hypotheses. Much of the debate has appeared in the pages of this *Review* (2).

In this article a broad critique of studies examining differences in performance based on control-type is presented in section II. It is argued that a fundamental weakness of these studies is that sensitivity analyses in relation to firm size and definition of management control have not been undertaken. Section III illustrates this argument employing a sample of Australian corporations. Section IV summarizes the results, and concludes that a new empirical approach is required.

II. *Empirical Tests of the Separation Thesis*

Most studies examining the separation thesis have shown that owner controlled firms have yielded higher profitability, but the difference has often been statistically or economically insignificant. The only exceptions to this rule (i.e. where management controlled firms have been more profitable) have been found in situations where firms have had low market power (Ware [52]; Sorenson [49]), or where, as in West Germany, financial institutions have played a significant role in the affairs of industrial corporations (Thonet and Poensgen [51]). Of the studies examining firm growth, most have found that there was no statistically significant difference based on control-type. However, it is important to note that those studies which have found owner controlled firms to be significantly more profitable (Radice [41]; McEachern [28]) *also* found owner-controlled firms to grow at a significantly faster rate (Radice [41]; McEachern [29]). In other words, where strong and statistically significant differences in more than one performance variable have emerged, the relationship between these has not been unusual from an economic standpoint.

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(1) In this debate the leading proponents of the managerial theories were BAUMOL [3, 4], MARRIS [27] and GALBRAITH [12], while the leading critics were BALDWIN [2], MEADE [31], SOLOW [47, 48] and MACHLUP [26].

(2) For example, see KAMERSCHEN [20, 21], PALMER [38], ROUND [42], COOPER [11] and LAWRIWSKY and ROUND [25].

Similarly, studies examining risk performance have yielded mixed conclusions. But those studies which have examined *both* risk and profitability, and found that significantly higher profits were earned by owner controlled firms (Boudreaux [6]; McEachern [28]), *also* found that these owner controlled firms were significantly more risky. The same relation also holds for retentions and control-type. For instance, when McEachern ([28], p. 47) reworked Sorenson's [49] data excluding low entry barrier industries he showed that management controlled firms in the remaining sample earned significantly *lower* profits, and had a significantly *higher* payout ratio than owner controlled firms. In his own sample McEachern [28] found that his « owner managed » firms, which were significantly *more* profitable than management controlled firms, also had a significantly *lower* payout ratio.

Grabowski and Mueller [14] have argued that owner controlled firms will on average tend to be younger, and have higher investment opportunities than management controlled firms. If this were the case then findings that owner controlled firms have higher profits associated with higher growth, risk and retentions could not be interpreted as providing support for the separation thesis. Yet only McEachern [28] attempted to control for this possibility by including a firm age variable in his analysis.

The managerial theories were concerned with large firms operating with some degree of monopoly power. Accordingly, many studies have employed samples composed of large firms, usually the top 200 or 500 US non-financial corporations. Palmer [37] limited his sample even further by separating out firms with high entry barriers in their major industry, and Holl [17] confined his study to those management controlled firms which in addition could evade the discipline of the market for corporate control. In these studies owner controlled firms were found to earn significantly higher profits. On the other hand, studies employing a much larger sample (e.g. Kania and McKean [22]), found no significant differences. But without including a wide range of company sizes and examining for control-type effects within different size categories, it is difficult to conclude that any differences in performances *were* dependent on control-type *per se*. The differences might, for example, have come about through « survivorability ». That is, within a sample of very large corporations, any remaining owner controlled companies would need to be exceptional, since in order to grow to that size while retaining ownership control new equity issues would need to be limited, and more debt incurred. Such doubts have been raised by Radice [41] and Steer and Cable [50], but no formal tests of the proposition have been undertaken.

Another problem with past studies is that they have assumed that owners, many of which are also managers, do not derive non-pecuniary benefits from the performance of their firm. Knight [23] and Schumpeter [45] recognised that « empire building » even at the expense of profits, may be associated with the egos of owner-managers. Other theorists have also made this observation (e.g. Gordon [13]; Marris [27]; Nichols [35]; Mueller [33]), but only McEachern [28] has formally incorporated it in an empirical model.

Several studies separated firms into « ultimate control » categories. Under such a classification scheme if a firm is controlled by another company through a substantial shareholding, which in turn is controlled by a third company, the control-type of the last holding company would be assigned to the first two. But it can by no means be taken for granted that the incentives and constraints faced by decision makers within a particular company controlled firm are identical to those in the controlling, or parent organization. In fact, Nyman and Silberston ([36], p. 94) have argued that in such firms managerial discretion would be severely limited. It was also reasoned that significant holdings by financial institutions would limit managerial discretion, but (as far as I am aware) no published study has attempted to test this proposition.

There has been some disagreement as to what proportion of shareholdings is necessary to constitute control over a corporation, and different studies have used varying definitions. Probably the most prevalent definition of ownership control has been that ten per cent of voting stock be held by a small group of « related » individuals (e.g. Kamerschen, [19]; Larner, [24]; Palmer, [37]). Other studies have tested for differences in the performance of two extreme control groups, variously defined (e.g. Monsen, Chiu and Cooley, [32]; Radice, [41]; Boudreaux, [7]). But none of the previous studies has presented a sensitivity analysis of their results employing alternative definitions of management control.

Another controversy surrounds the choice of the appropriate performance indicator. There has been a debate in the industrial organization literature over whether sales-based or capital-based measures of profitability give the *best* indications of allocative efficiency ([3]). The ownership and control studies have been divided as to whether a capital-based rate of return (on equity or net assets) is superior to an ex-post market rate of return (i.e. the return to an investor from dividends and capital gains). A problem with the market return figure is that it depends partially on

([3]) For example, see BAIN ([1], pp. 386-394) and SCHERER ([44], p. 80).

market expectations and may be more independent of managerial actions. On the other hand capital based returns are subject to the vagaries of creative accounting. Both are subject to the criticism that risk dimension is not incorporated. It has been argued that the capital asset pricing model (CAPM) will yield a risk adjusted market rate of return (Bothwell, [5]). However, as Hindley ([15], p. 214) has pointed out, the market may be expected to capitalize the *anticipated* effects of control-type. Any differences on the basis of control-type which are observed then, may be due to « changes in the level of managerial usurpation », or to a change in the control position which has gone unnoticed by the researcher in question.

Finally, caution should be exercised in making international comparisons of studies seeking to uncover performance consequences of the separation of ownership from control. Chandler [9] stressed that cultural, social and legal differences between the US and European countries have been responsible for chronological disparities in the emergence of managerial capitalism. For example, it was noted that,

« In Europe... Families identified themselves more closely with the firm that provided the income with which to maintain their status than did families in the United States... [and where] the owners hired middle managers to co-ordinate flows, the family continued to dominate top management. Often the family preferred not to expand the enterprise if it meant the loss of personal control » ([9], p. 500).

III. *A Sensitivity Analysis Employing Australian Data*

(a) *The Data*

The ownership and control data are based on a sample of 226 corporations listed on the Sydney Stock Exchange over the period 1965/66 to 1974/75. It was drawn randomly from a group of 317 non-mining, non-finance, non-development and contracting companies appearing in the *Statex Investment Service*. However, only continuously listed companies are included, and those in which another corporation held more than 15 per cent of ordinary shares have been excluded. This yields a final sample of 142 companies.

The ownership data are the most comprehensive (for a sample of this size) ever to be compiled in Australia, and are the result of a thorough examination of the share registers of more than 2,000 private companies and investment trusts. Financial variables (apart from firm size) are averages over the period 1966/67 to 1974/75, and employ the same definitions that

were used by Singh and Whittington [46] in their exhaustive study of UK firms.

With regard to firm maturity, Grabowski and Mueller [14] employed a classification scheme based on chronological age (firms beginning after 1945) and product structure (firms in which more than 50 per cent of products produced did not exist prior to 1945) to identify non-mature firms. In the Australian case 1939, the beginning of World War II was considered to be significant as a point of demarcation. World War II provided a considerable stimulus to Australia's manufacturing industries. Australia suddenly found itself to be a major source of supply for British Commonwealth countries east of Suez. Thus, during the war period and in the decades following, many new industries utilizing new technologies were begun. « New » firms which were created to takeover the productive assets of a concern which had originated before 1939 were classified as mature, while firms established by « mature » overseas corporations after that date were classified as non-mature in the Australian environment. To take account of chronologically old firms which had managed to reverse life-cycle forces the company histories of all « mature » firms in the *Sydney Stock Exchange Investment Service Sheets* were examined. Where it could be established that major re-organisation had been experienced during or after World War II these companies were re-classified as non-mature.

(b) *The Model*

We shall define four alternative definitions of management control — denoted MC_1, MC_2, MC_3 and MC_4 — all of which have been employed in previous studies. Specifically, the definition of these four dummy variables are as follows ([4]),

$$MC_1 \begin{cases} = 1 \text{ for firms where directors and related interests held less than } 5\% \text{ of shares} \\ = 0 \text{ if directors and related interests held more than } 5\% \text{ of shares} \end{cases}$$

([4]) Note that definitions MC_3 and MC_4 necessitate a reduction in sample size. In MC_3 we eliminate firms in which directors and related interests held between 5% and 15% of shares, while in MC_4 we eliminate management controlled firms (with less than 10% ownership) which did not evade market discipline. Definition of the latter follows closely that employed by Holl [17]. That is, firms which had below (industry) average valuation ratios in 1966/67 to 1968/69 and did not move closer to their industry average in 1972/73 to 1974/75 were considered to be evading market discipline.

MC_2 = 1 for firms where directors and related interests held less than 10% of shares
= 0 if directors and related interests held more than 10% of shares

MC_3 = 1 for firms where directors and related interests held less than 5% of shares
= 0 if directors and related interests held more than 15% of shares

MC_4 = 1 for firms where directors and related interests held less than 10% of shares and were able to evade the discipline of the market for corporate control
= 0 if directors and related interests held more than 10% of shares.

In previous studies two of the most frequently used indicators of performance have been the rate of return on net worth (equity assets) and the growth rate of the firm. Most tests have taken the form of regressing these performance measures against a dummy variable reflecting management control. Differences in environmental conditions have been accounted for by the inclusion of industry dummies, firm size and/or industry barriers to entry variables.

As estimates of industry barriers to entry at the firm level were not available (5), the original model was of the form,

$$P = \beta_0 + \beta_1 MC_j + \sum_{k=2}^{k=17} \beta_k \sum_{1=2}^{1=16} ID_1 + \beta_{18} SIZE + \beta_{19} NMAT + \varepsilon \qquad (1)$$

where,

P is performance, measured alternatively as *REA* (post-tax rate of return on equity assets) and *GNA* (growth rate of net assets) over the period 1966-67 to 1974-75

MC_j is the management control dummy, where $j = 1 \ldots 4$

$ID_2 \ldots ID_{16}$ are industry dummy variables, where ID_1 Food, Beverages and Tobacco) $= 0, ID_1 = 1$ otherwise etc.

(5) Recently PARRY and WATSON [39] have estimated a « cost disadvantage ratio » (Best-X MES) for 4-digit manufacturing industries in Australia. ROUND [42] argued that this measure — while theoretically superior to minimum efficient scale proxies developed by COMANOR and WILSON [10] or CAVES, KHALILZADEH-SHIRAZI and PORTER [8] — still suffers from significant multicollinearity with market concentration. However, to apply this measure at the firm level would require detailed information on what industry weightings to apply to each firm.

SIZE	is firm size, defined as the reciprocal of net assets in 1966 (NA_0) ([6])
NMAT	is the firm maturity dummy, assigned a value of 1 when the firm is non-mature and 0 otherwise
$\beta_0 \ldots \beta_{19}$	are constants
ε	is the stochastic error term.

However, when the 2-digit industry dummy variables were included in our regressions only one was significant at the .05 level using a two-tailed test. This industry, Textiles, had significantly lower profitability and growth. Since the inclusion of the industry dummies did not materially affect the size or significance of the coefficient on MC_j these were dropped from the equation. There is no real theoretical justification for including a Textile dummy as this industry was composed of a roughly equal number of management and owner-controlled firms. Consequently the model reduces to,

$$P = \beta_0 + \beta_1 MC_j + \beta_2 SIZE + \beta_3 NMAT + \varepsilon . \qquad (2)$$

Following the usual empirical interpretation of the « alternative theories » we are testing the hypotheses that, (a) management-controlled firms will earn a lower rate of return than owner-controlled firms, and (b) management controlled firms will grow at a faster rate than owner-controlled firms. Therefore, the null and alternative hypotheses are *Ho*: $\beta_1 = 0$, *H*1: $\beta_1 < 0$ in the profitability equation and *Ho*: $\beta_1 = 0$, *H*1: $\beta_1 > 0$ in the growth equation. No *a priori* hypothesis is made regarding the sign on the *SIZE* coefficient, since the effects of economies of scale and market power might be countered by *X*-inefficiency and with pursuit of alternative objective to profit maximization. When reviewing Radice's « surprising » results Grabowski and Mueller ([14], p. 405) offered a « life-cycle » interpretation, arguing that, on average, the management-controlled firms will tend to be more mature and have lower investment opportunities. Therefore, on this count one would expect to find higher profit and growth rates among owner-controlled firms.

(c) *Empirical Results*

The application of equation (2) to the entire sample yielded a surprising result. Management-controlled firms were shown to be *both* more profitable and growing faster than owner-controlled firms. Statistical

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([6]) The reciprocal of net assets was found to provide the best « explanation » of profitability and growth, which in the case of profitability is supported by findings of an earlier Australian study (PHILLIPS [40]).

significance at the .05 level was achieved in every case, except when MC_4 was employed as the definition of management-control. But, as McEachern (1978, p. 492) has recently reiterated, the « 'new theories' ... argue that in addition to there being a separation of ownership from control managers must also be relatively free from the product-market constraint ... and this environment is characterized by large firms in less than competitive industries ». Thus a supporter of the managerialist hypothesis would discount this unusual result, and insist on a separate test being conducted on the large firms sub-sample.

In fact our sample was stratified into three size categories, and the curvilinear *SIZE* variable in equation (2) was replaced by a linear variable, NA_o, the value of net assets in 1966. The « large firms » size category was composed of firms with opening assets exceeding $20 million in 1966 (7). This corresponds to the Top 100 Australian companies at that time. In *proportionate* terms, however, this group is roughly comparable to the Top 500 in the US and the Top 200 in the UK, which have been the primary subjects of research on ownership and control in those countries. The « small firms » category was composed of firms with net assets of less than $5 million in 1966.

A summary of the sensitivity analysis is provided in Table 1 which shows the coefficients and « *t* ratios » obtained on the management-control dummy variables in the three size categories. Considering first the rate of return on equity (REA) column in the Large firms sample we find that the negative signs attached to the management-control dummies support the managerialist position. However, the negative coefficients in the growth equations (GNA) run counter to the managerial prediction. Also, the explanatory power was quite low (R^2 ranged from .086, to .182 when MC_3 was employed). The MC_2 definition of management control is similar to that employed in many US studies, and the result is not unlike that found by, say, Kamerschen [19] or Larner [24]. The MC_3 definition approximates most closely the definition employed by Radice [41], whose sample consisted of large UK firms. This definition has the effect of eliminating what Radice termed « transitional » control-types those in which the cohesive ownership group holds between 5% and 15% of issued shares. Here the coefficient indicates that management-controlled firms earned a rate of return on equity assets which was 1.5 percentage points less than

(7) The choice of a $20 million net assets cut-off point to distinguish « large firms » is not as arbitrary as it seems. These firms had several performance characteristics which clearly distinguished them from smaller companies.

TABLE 1.

SUMMARY: SENSITIVITY OF *MC* COEFFICIENT TO FIRM SIZE AND ALTERNATIVE SPECIFICATIONS OF MANAGEMENT CONTROL

Control Type \ Firm Size	Small		Medium		Large	
	REA	*GNA*	*REA*	*GNA*	*REA*	*GNA*
MC_1	.008 (.415)	.038 (.839)	.022 (2.383)[b]	.034 (2.072)[b]	−.004 (.566)	−.008 (.587)
MC_2	.028 (2.648)[b]	.045 (1.214)	.027 (2.965)[a]	.032 (1.874)[c]	−.011 (1.408)[c]	−.017 (1.223)
MC_3	.020 (1.755)[c]	.054 (.970)	.026 (2.625)[a]	.037 (1.780)[c]	−.015 (1.850)[b]	−.024 (1.466)
MC_4	−.007 (.272)	.016 (.155)	.010 (.747)	.034 (1.717)[c]	−.023 (3.223)[a]	−.027 (1.661)

Notes: a, b and c denote significance at the .01, .05 and .10 levels respectively using a one-tail test for the Large firms sample, and a two-tail test for the Small and Medium-sized firms samples.

that earned by owner-controlled firms. But at the same time management-controlled firms grew at a lower rate — 2.4 per cent lower — than did owner-controlled firms. The conclusion is not unlike that reported by Radice.

The fourth definition of management control, MC_4, is similar to the one used by Holl [17] in the US. There we are testing Holl's hypothesis that management-controlled firms which can avoid the constraint of the market for corporate control, and have a significant degree of market power, will earn a lower rate of return than will owner controlled firms in a similar position of market power. The bias inherent in stating the managerialist hypothesis in this way can be seen by comparing coefficients on the control-type dummy variables MC_2 and MC_4. In the former case, which employs the same definition of management-control based on ownership structure, the profitability of management-controlled firms is 1.1 percentage points below that of owner-controlled firms. Larner [24] would argue that this difference is not very important in economic terms, and it is only barely statistically significant at .10 level using a one-tail test. Yet in the equation employing MC_4, management-controlled firms are seen to earn a rate of return 2.3 percentage points less than owner controlled firms, and this difference is significant at the .01 level. Holl did not test the proposition that growth rates of firms differed according to his definition of control-type. However, our results show that these (MC_4) mana-

gement-controlled firms, as well as earning lower profits, grew less rapidly. The influence of firm size on the profitability of these large firms was extremely weak, but size was generally negatively associated with growth and on one occasion the size coefficient was significant at the .10 level using a two-tailed test.

Thus, we have found that among the very largest firms in the economy, depending on the definition employed, management controlled firms are shown to be: a) about as profitable as owner controlled firms (MC_1); b) significantly less profitable at the .10 level (MC_2); c) significantly less profitable at the .05 level (MC_3); or d) significantly less profitable at the .01 level (MC_4). The choice, it seems, is up to the researcher.

Before discussing medium and small-sized firms a digression on the behaviour of the maturity dummy would appear to be in order. For large firms the coefficient relating to *NMAT* in the profitability equations were all positive and significant at the .10 level. In absolute terms the effect of non-maturity on the average rate of return on equity assets ranged from 1.7 percentage points to 2.4 percentage points. In the growth equations all the coefficients on the maturity dummy had the expected positive sign and were about twice as great as the effect on profitability. However, statistical significance was not achieved. One reason for the lack of statistical significance of the *NMAT* coefficient in the growth equations, and the relatively low *t*-values in the profitability equations may be the small number of observations. Only three of the 38 large firms sample were classified as non-mature. Another reason is that we should expect non-mature firms to earn higher marginal rates of return. Thus, Mueller ([33], p. 675) has argued that « while the correlation between average and marginal rates of return among firms is undoubtedly positive, enough white noise is probably introduced into the data by using the former as a proxy for the desired marginal rates, that the significance of this type of test [of the growth maximization hypothesis] is placed in some doubt ».

The profitability and growth performance of medium sized and small owner and management-controlled firms are now compared. Since the managerialist literature argues that in smaller firms (where competitive pressures are likely to be more intense) managers will have little opportunity to divert potential profits, two-tailed « *t* » tests are performed on the coefficients of the control-type dummies. Medium sized firms are defined as those which had net assets of between $5 million and $20 million in 1966. The results show that in terms of both profitability and growth, management-controlled firms outperformed owner-controlled firms. In terms of profitability management-controlled firms earned a rate of return on

equity assets which was, depending on the definition used, between 1.0 and 2.7 percentage points higher. Furthermore, this difference was, with the exception of (MC_4), always significant at the .05 level or better. Also, the growth rates of management-controlled firms were always at least 3.2 percentage points higher than those of owner-controlled firms, and these differences were significant at the .05 level on one occasion (MC_1), and at the .10 level with alternative definitions.

It is interesting to note that while the profitability of management-controlled firms which were able to evade the discipline of the market for corporate control (MC_4) was not significantly greater than that achieved by owner-controlled firms, the growth rate achieved by these management-controlled firms was significantly higher at the .10 level. This may indeed indicate that such management-controlled firms were pursuing growth at the expense of higher profitability. However, to conduct such a test on its own would be dubious practice, since the specification of management-control biases the result from the start. In general the signs on the coefficients of *NMAT* are positive as hypothesized, but statistical significance is not found. Firm size (measured by opening net assets) always had a negative influence on profitability and growth, but the coefficients were never significant.

The next two columns of Table 1 show the results of a similar analysis carried out on the small firms sample — those with net assets of less than $5 million in 1966. In general management-control again has positive effects on profitability and growth, but now the only statistically significant differences are in profit rates. Under definitions MC_2 and MC_3 management-controlled firms earned higher rates of return which were significant at the .05 and .10 levels respectively. The maturity dummy variable is again positive in the majority of cases but never statistically significant. However, the negative influence of firm size on profitability and growth (not shown) was now strong and generally statistically significant at the .01 level.

IV. *Summary and Conclusions*

In sum, our sensitivity analysis has yielded the following results:

a) Whatever results are obtained in attempts to assess the effects of control-type on firm performance, these are quite sensitive to the definition of management-control employed. In light of this it is curious that no previous researcher has undertaken such a sensitivity analysis ([8]).

([8]) The one exception to this rule was the limited analysis carried out by HOLL [16].

b) In « large » firms characterized by a high degree of market power, owner-controlled firms earned significantly higher rates of return on equity assets (although the level of significance varied depending on the definition of management-control which was used), and higher rates of growth of net assets (although the differences were not statistically significant).

c) Among «medium sized» firms the reverse was true, since management-controlled firms earned significantly higher rates of profit, and achieved significantly higher growth rates.

d) In the « small » firms sample management-controlled firms again achieved higher profitability and growth, although a statistically significant difference in profits at the .05 level was found only when MC_2 was used as the definition of management-control.

e) On the whole, the highest t-values were achieved when MC_2 was used as the definition distinguishing management from owner-controlled firms which implies that ownership of ten per cent of shares was most critical in determining performance, although we have not determined why it was critical.

The findings are consistent with those of an earlier exploratory investigation of large Australian companies conducted by Round [42]. Similarly, they are consistent with the findings of several US and UK studies. They highlight the blinkered view that results from restricting samples only to large corporation, and of reliance on a single definition of control.

Another important point to emerge from our findings is the apparent interaction effect between firm size and control-type. The size cut-off point employed by most previous studies has probably precluded the discovery of such an effect. However, this effect was found to be significant in the French study conducted by Jacquemin and Ghellinck [18]. Their most substantial finding was that firm size had a significantly greater positive influence on the profitability of « Familial » companies. From their results one concludes that among the largest of the Top 200 in France, owner-controlled firms are more profitable, while at the lower range, management controlled firms were more profitable. No substantial explanation of this « anomaly » was provided.

Even when considerable differences in performance have been uncovered, most previous studies have shed little light on the fundamental question of *why* the observed differences came about. Thus, upon discovering that the owner-controlled firms in their sample earned higher rates

of return Monsen, Chiu and Cooley [32] qualified their findings in the following terms:

> « While our tests show clearly the differences in performance between owner controlled and management controlled firms, they do not, of course, explain why such performance occurs. The hypothesis that seems most convincing to us is that two quite different motivation systems are at work — one for owners and another for managers » (pp. 441-2).

This approach followed a rather indirect course. It made a judgement about the motivation of managers in companies depending on the dispersion of shareholdings in those companies. Supporting studies relating to the linkages between managerial compensation and corporate performance were used to buttress the resulting hypothesis. This was that in firms with a dominant stockholder (owner-controlled firms) managers could be expected to « maximize shareholder welfare », while in firms without a dominant stockholder (management controlled firms) managers would be free to pursue their own interests at the expense of the shareholders.

The researchers following this approach have, without exception, made the implicit assumption that motivation and the internal factors restraining its expression have been homogeneous within the « control groups » identified. Thus, differences in motivations and restraints within these groups have been ignored, and in general only variables reflecting the restraint imposed by the produce market have been used to control for external influences. This suggests that future research should, instead, proceed from the direct identification of the incentives and restraints, both internal and external to the firm, which interact in determining its performance.

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UNA VISIONE CRITICA DEGLI STUDI CIRCA GLI EFFETTI PRATICI DELLA SEPARAZIONE DI PROPRIETA' E CONTROLLO

Scopo del lavoro è quello di criticare il modo spesso tenuto dagli studi empirici che prendono in esame la tesi della separazione della proprietà dal controllo. Tale tesi di carattere generale ha dato origine, com'è noto, a una letteratura teorica importante, la quale riconosceva tuttavia doversi in ultima analisi riguardare il problema della sua natura di questione empirica. La questione empirica non ha tuttavia potuto esser trattata e risolta in maniera soddisfacente e convincente. La ragione di ciò risiede secondo l'autore, in una debolezza fondamentale degli studi empirici in materia, debolezza che riguarda la definizione di controllo e l'analisi di sensitività in rapporto alla dimensione d'impresa.

Un caso analizzato su dati australiani dimostra come sia possibile raggiungere qualsiasi conclusione a seconda del tipo di campione utilizzato e della definizione prescelta.

I risultati qui ottenuti confermano quanto messo in luce anche da altri studi critici dell'argomento e, in aggiunta, consentono di comprendere le ragioni dello stato insoddisfacente della ricerca empirica su questo tema centrale per l'economia dell'impresa. Il lavoro si conclude dunque con la proposta di una diversa e nuova impostazione per questi studi empirici.

A NOTE ON EATWELL, LLEWELLYN AND TARLING WAGE INFLATION MODEL

by
DANIELE SCHILIRÒ (*)

Abstract

The article is simply an exercise of applied econometrics, that aims at answering the following question: can the results of Eatwell - Llewellyn - Tarling money wage inflation model in industrial countries up until 1967 be replicated for period 1968 to 1972?

The paper was presented at Cambridge as an essay topic in econometrics for the M. Phil. program in 1980.

1. *Eatwell, Llewellyn, Tarling article*

The Review of Economic Studies published in 1974 an article by Eatwell, Llewellyn and Tarling (ELT) on « Money Wage Inflation in Industrial Countries ». The article consists of an empirical analysis of the relationship between average rates of growth of earnings and sectoral productivity in the manufacturing sectors of fifteen industrial economies over the period 1958-1967.

The ELT study takes as its starting point the so called « key-industry » hypothesis, based on the observed intersectoral homogeneity of wage growth rates in manufacturing and on the long term stability of wage differentials. The « key-industry » hypothesis supposes that there exists

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a « key » or « guidepost » sector of industry which determines the *overall* rate of growth of money wages.

The traditional view (1) attempts to explain the growth of money wages in this « guidepost » sector in terms of variables such as employment and the rate of profit. Another variant of this hypothesis, the « Nordic » view, takes the « key » sector to be the tradeables' sector (2).

The ELT view is a generalization of Kaldor (1959), who suggests that the « key » sector may be identified with the magnitude of the rate of growth of productivity. ELT maintain that « the ' key ' group need not be a specific and unchanging sector of the economy, but may be the group which, over any particular period of time, dominates the economy in terms of the explanatory variable, productivity growth » (3).

Underlying this composite hypothesis, is the behavioural assumption that the « key » industries spend a high proportion of their large productivity gains in the form of higher wage payments, and that these gains are neither absorbed by higher profits, nor by substantial price cutting. The reason for this is to be found in the realms of the oligopolistic pricing strategy and industrial relations characterized by strong trade unions.

It is worth noting that the ELT study is a long-term analysis and is concerned with the long-term (« systematic ») influences on the overall rate of growth of money wages. The study abstracts from short-term (« special ») influences. The econometric test conducted by ELT consists of a cross-country study of the relationship between average rates of growth of earnings (4) and of productivity in the manufacturing sectors of the 15 major industrial economies for which sufficient disaggregated data was available. The data is assembled in cross-section and is shown in table A (5). Where $\overline{w}$ is the average of the rates of growth of earnings in the 20 (two digit level of disaggregation) (6) industries; $\overline{p}$ is the average of the rates of growth of productivity in the 20 industries; Z_3 is the rate of growth of productivity in the top three industries.

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(1) See O. Eckstein and T. Wilson, 1962 [2]; and O. Eckstein, 1964 [3].

(2) See G. Edgren, O. Faxen and C. E. Odhner, 1969, [4].

(3) See J. Eatwell, J. Llewellyn and R. Tarling, *op. cit.*, p. 516.

(4) Earnings are used, rather than wages, because of the importance of plant-level bargaining.

(5) See ELT, *op. cit.*, p. 520.

(6) See Appendix.

TABLE A

AVERAGE RATES OF GROWTH OF EARNING, PRODUCTIVITY, AND PRODUCTIVITY IN « TOP » INDUSTRIES, 15 COUNTRIES, 1958-1967

	$\bar{w}$	$\bar{p}$	Z_3
Japan	9.88	7.92	11.86
Israel	9.48	5.67	10.54
Netherlands	9.32	4.61	6.30
W. Germany	8.86	4.54	10.64
Denmark	8.64	4.31	10.37
Sweden	8.10	5.52	10.08
Finland	7.46	4.73	8.60
Ireland	7.22	3.88	6.76
France	6.83	4.16	8.14
Norway	6.79	3.74	7.67
Belgium	6.36	4.34	6.20
U.K.	6.11	2.93	6.65
Canada	4.14	2.72	4.93
New Zealand	3.84	3.32	5.93
USA	3.18	3.61	6.04

The equation tested is the following:

$$\bar{w} = a + bZ_3 . \qquad n = 15$$

$$\text{or } n = 14$$

The null hypothesis is $H_0 : b = 0$ versus $H_1 : b \neq 0$.

They found b to be 0.86 ($n = 14$) and 0.76 ($n = 15$), i.e. significantly non-zero. $R^2 = 0.83$ ($n = 14$) and $R^2 = 0.612$ ($n = 15$).

2. *Our Analysis*

The purpose of this paper has been to accept the ELT combined wage-leadership hypothesis and to test its validity for the successive period, 1968-1972. We chose to limit our test-period to five years in order to avoid the effects of the sudden fourfold increase in oil prices, following

the Yom Kippur War of 1973. We realise, of course, that in the period under consideration there were the following important facts:

a) widespread acceleration of increases in unit labour costs in industrial countries;

b) breakdown of the international monetary system and abandonment of the system of fixed, but adjustable, exchange rates in 1971;

c) rapid increase in food and raw material prices in 1972.

Nevertheless, it has been our intention to see just *how far* the ELT hypothesis would hold under such circumstances.

Closely following the ELT approach, we have collected and ordered similar series on earnings and productivity ([7]). Tables I and II give the intersectoral productivity and earnings growth rates for the fifteen countries; from these two tables we have derived table III, which corresponds to table A.

In comparing tables A and III, two differences are striking. First, the average rates of growth of earnings in table A are all single-figure magnitudes, whilst thirteen out of fifteen observations in table III are two digit figures.

Secondly, we notice that the ordering of countries has changed. Countries such as Ireland, Belgium and the U.K. moved up from countries with low growth of earnings to countries with an high growth of earnings ([8]).

We discovered, furthermore, that in six out of the fifteen countries (Canada, Finland, Israel, New Zealand, Norway and Sweden) all three of the « top » industries changed with respect to the previous period. At a glance the new ' dinamic ' sectors appear to be more labour or skill intensive.

The values for productivity growth in the « top » industries in the period 1968-72 do not change dramatically, although there has been an overall increase; (the mean of Z_3 for the fifteen countries in table A is 8.04, whereas in table III it is 9.78).

We tested the ELT hypothesis by means of the OLS estimator. The equation is

$$\bar{w} = a + bZ_3 . \qquad \text{for } n=14,\ n=15$$

([7]) For details on sources and procedures adopted, see Appendix.

([8]) It is interesting to note that the Netherlands now exhibit the expected relation - namely that $\bar{w} < Z$. Cfr. ELT, *op. cit.*, p. 517.

TABLE I.

EARNINGS GROWTH RATES 1968-1972

Branch of Industry	ISIC old	ISIC new	Belgium (a)	Canada	Denmark (a)	Finland	France	Germany (a)	Ireland (a)	Israel	Japan	Nethl. (a)	New Zeal.	Norway (a)	Sweden (a)	U.K. (a)	USA
Food products	20	311/2	12.27	11.05	11.47	....	9.81	9.59	14.75	7.10	16.80	13.57	13.00	....	10.82	13.60	6.75
Beverages	21	313	10.60	12.77	14.15	....		11.20	14.15			14.65	10.92	10.10	10.97		
Tobacco	22	314	14.75	10.24	10.82	....		....	14.37			12.97	12.75	9.55	11.90		8.70
Textiles	23	321	12.50	7.76	11.70	15.75	10.72	10.22	14.27	11.40	18.50	11.07	11.22	10.25	11.00	11.35	5.50
Clothing/footwear	24	322/4	11.90	7.96	9.10	....	9.40	10.30	12.42	13.10	15.00	10.88	9.67	8.90	9.30	10.45	4.17
Wood products	25	331	15.75	9.21	10.30	11.50	8.97	....	15.37	10.47	18.52	13.07	11.80	9.50	10.55	11.85	7.92
Furniture	26	332	11.20	7.46	10.00	....		11.23				12.41	11.07		9.95		5.27
Paper	27	341	12.62	8.26	12.00	14.00	10.28	11.40	13.85	10.32	19.97	13.22	10.67	10.70	11.00	9.85	6.65
Printing	28	342	11.00	8.22	10.25	9.32	9.57	10.32		10.45	15.35	14.55	10.57	....	9.80		6.37
Leather	29	323	11.67	7.60	9.07	11.67	10.00	12.71	14.52	10.42	14.07	13.45	8.80	9.77	9.77	8.17	5.02
Rubber products	30	355	13.87	8.95	9.45		7.97	....		8.18	17.37	14.10	11.75	9.67	10.25	....	5.42
Chemicals	31	351/2	13.90	7.76	11.20	....		10.90	14.20	11.62	15.92	10.70	11.50	11.35	10.65	13.22	6.15
Petroleum	32	353/4	12.86	8.32	13.00	....	....	....	....		12.90		....	....			7.17
Non metallic mineral product	33	361/2/9	13.35	9.38	12.17	10.97	10.85	10.10	16.67	9.12	12.82	13.55	9.50	10.40	10.32	13.17	6.92
Basic Metals	34	371/2	13.72	8.00	10.88	11.82	13.75	9.25	15.37	10.70	14.55	11.02	....	....	12.22	12.26	7.12
Metal products	35	381	12.82	8.17				10.54		11.85	14.62	12.57	10.12	....	10.17		6.00
Non electrical machinery	36	382	12.27	8.30		12.15				11.32	14.65	12.42		....	9.87		6.14
Electrical machinery	37	383	12.47	7.05			9.15	....		12.32	15.65	11.01	9.87	....	9.22		5.87
Transport equipment	38	384	12.82	8.38	11.75		....	....		10.20	14.77	12.20	14.35	....	9.63		6.47
Miscellaneous	39	390/85	....	7.77	10.45	....	....	....	....	12.00	16.37	12.02	7.85	....	....	12.02	5.70
Mean			12.75	8.63	11.04	12.12	10.04	10.64	14.54	10.70	15.75	12.60	10.90	10.19	10.40	11.59	6.28

... = not available.
(a) = males only.
Source: see Appendix.

TABLE II.

PRODUCTIVITY GROWTH RATES, 1968-1972

Branch of Industry	ISIC old	ISIC new	Belgium	Canada	Denmark	Finland	France	Germany	Ireland	Israel	Japan	Nethl.	New Zeal.	Norway	Sweden	U.K.	USA
Food products	20	311/2	2.42	2.82	0.60	2.54	1.55	3.19	2.03	4.68	5.40	5.04	1.46	0.04	1.75	2.03	4.34
Beverages	21	313	4.22	7.32	6.44	7.16		3.80	7.68			4.24	1.32	3.32	9.40	3.93	7.43
Tobacco	22	314	2.37	4.06	5.76	6.18		7.68	3.67			7.88	2.79	0.13	5.30	2.21	3.96
Textiles	23	321	4.52	5.32	7.84	7.86	8.01	6.63	10.20	3.39	6.88	4.17	7.39	6.24	7.75	3.90	1.97
Clothing/footwear	24	322/4	4.00	0.99	2.13	−0.26	. . .	2.23	3.74	4.40	0.31	8.07	3.34	0.51	3.92	1.23	1.24
Wood products	25	331	1.28	5.25	7.12	−0.60	6.61	−0.76	5.85	4.76	3.16	. . .	3.33	4.38	2.70	4.16	−0.65
Furniture	26	332		−1.61	8.63	23.11		5.98	1.26	. . .		. . .	2.54	3.22	5.95	1.03	0.07
Paper	27	341	4.55	4.32	6.29	3.92	3.27	3.24	7.77	−0.22	8.16	7.41	1.55	2.93	4.62	0.36	3.37
Printing	28	342	. . .	2.52	−2.10	4.89	4.39	4.22	2.28	2.47	. . .	1.66	4.88	0.51	2.60	2.03	0.51
Leather	29	323	13.20	8.54	4.90	3.11	6.10	2.46	5.98	12.53	4.82	5.44	−0.95	5.65	2.90	1.06	1.66
Rubber products	30	355	9.29	2.65	3.43	11.32	9.85	3.22	. . .	11.41	9.17	9.09	5.33	3.00	1.47	0.77	2.88
Chemicals	31	351/2	8.15	4.31	4.31	9.46		8.23	2.52	7.51	11.67	11.08	4.32	6.16	9.80	6.66	17.3
Petroleum	32	353/4	−3.10	7.25	9.11	2.14	7.65	−1.76	. . .		8.96	7.32	. . .	5.89	6.01	8.14	4.69
Non metallic mineral product	33	361/2/9	6.92	4.44	4.32	1.48	6.85	1.25	1.72	7.88	6.20	4.96	5.49	7.17	8.25	2.96	1.25
Basic Metals	34	371/2	4.12	4.44	−0.24	4.96	3.29	2.69	−3.38	3.16	8.48	15.80	9.11	1.54	3.37	−0.17	4.08
Metal products	35	381	2.21	3.27	3.92	8.80	3.91	6.47		9.19	8.41	8.19	3.11	3.56	4.05	−0.99	−0.18
Non electrical machinery	36	382		6.16	6.58	−6.78	5.84	2.73	−3.97	9.61	6.25		. . .	1.47	3.52	1.04	3.64
Electrical machinery	37	383	5.98	4.80	10.23	7.61	7.38	5.27	−1.02	13.33	12.49	12.51	3.40	2.89	2.92	4.77	4.01
Transport equipment	38	384		4.73	7.18	−0.59	6.32	3.10	−0.98	4.45	12.95	. . .	2.70	2.75	3.47	0.50	−0.33
Miscellaneous	39	390/85	−5.09	8.84	2.10	−2.35	4.79	1.38	−1.98	16.23	5.97	. . .	. . .	9.15	4.47	−0.18	3.33
Mean			4.06	4.52	4.92	4.70	6.16	3.59	2.94	7.18	7.45	7.50	3.59	3.52	4.71	2.27	3.23

Source: see Appendix.

. . . = not available.

TABLE III.

AVERAGE RATES OF GROWTH OF EARNINGS, OF PRODUCTIVITY AND OF PRODUCTIVITY IN « TOP » INDUSTRIES, 15 COUNTRIES; 1968-1972

	$\bar{w}$	$\bar{p}$	Z_3
Japan	15.75	7.45	12.37
Ireland	14.54	2.94	8.54
Belgium	12.75	4.06	10.21
Netherlands	12.60	7.50	13.13
Finland	12.12	4.70	14.63
U.K.	11.59	2.27	6.52
Denmark	11.04	4.92	9.32
New Zealand	10.90	3.59	7.33
Israel	10.70	7.18	14.03
W. Germany	10.64	3.59	7.51
Sweden	10.40	4.71	9.15
Norway	10.19	3.52	7.52
France	10.04	6.16	8.50
Canada	8.63	4.52	8.23
USA	6.28	3.23	9.82

$\bar{w}$ is the average of the rates of growth of earnings in the 20 industries given in Table I;

$\bar{p}$ is the average of the rates of growth of productivity in the 20 industries given in Table II;

Z_3 is the average of the rates of growth of productivity in the « top » three industries of each country taken from Table II.

Source: see Tables I and II.

The results are as follows:

$$\bar{w} = \underset{(2.35)}{8.65} + \underset{(0.23)}{0.26}\, Z_3 \qquad \bar{R}^2 = 0.0179 \quad n = 14$$

$$\bar{w} = \underset{(2.55)}{8.84} + \underset{(0.26)}{0.24}\, Z_3 \qquad \bar{R}^2 = 0.0122 \quad n = 15$$

The values in brackets are standard errors.

The results obtained from using the ELT hypothesis for the period 1968-1972 are disappointing. There may be reason to believe that the effect of the so-called « special factors », described as « once and for all » (ELT, op. cit., p. 515) may indeed have been more than transient.

There are a number of explanations to the wage explosion of 1968-69 (9). We have no preferred explanation to offer and therefore we do not suggest any alternative testable hypothesis.

APPENDIX

This appendix indicates the sources from which the raw data have been obtained and the procedures adopted in order to obtain the final values shown in tables I, II, III.

Sources

1. U.N. publication: « Growth of World Industry Tables - Volume 1: Central Industrial Statistics », 1973 edition.

This volume provides the index numbers of industrial production (base year 1970) for individual industries (New ISIC) and the number of employees (in thousands) for the same industries.

2. I.L.O. publication: « Yearbook for Labour Statistics », 1973 and 1974 editions.

These volumes provide the series of average hourly earnings by industry for the fifteen different countries.

Precise definitions of each individual series are given in the sources.

Procedures

The first problem was to match the old ISIC digit industries classification with the new ISIC, which gives a three digit industries classification. Thus, we had to combine, for example, the 371 Iron and Steel Industry with 372 Non-Ferrous Metals in order to obtain the two digit Basic Metal industry.

When index numbers of industrial production were to be combined, we accepted their respective value added in factor values as weights.

Next, the index numbers of productivity (as the ratio between output and employment) and average hourly earnings in each industry were calculated for each year, from 1968 to 1972 (base year 1970) and average hourly earnings in each industry were calculated for each year, from 1968 to 1972 (base year 1970), in all the fifteen countries.

From these index numbers the average rates of growth for the period 1968-1972 were computed in the following way: first, we derived the annual rates of change of productivity and earnings for the years 1968-1972, then we calculated the arithmetic mean of these annual rates (10).

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(9) For a good survey and discussion, see W. NORDHAUS, 1972, [7] and see also N. KALDOR, 1976, [6].

(10) The series of index numbers of productivity and earnings are available from the author.

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NOTA SUL MODELLO D'INFLAZIONE DA SALARI DI EATWELL, LLEWELLYN E TARLING

La Review of Economic Studies ha pubblicato nel 1974 un articolo di tre economisti dell'Università di Cambridge, J. Eatwell, J. Llewellyn e R. Tarling (ELT) intitolato « L'inflazione da salari monetari nei paesi industriali ».

L'articolo di ELT è un'analisi empirica della relazione fra i saggi medi di crescita dei guadagni monetari dei lavoratori e quelli della produttività settoriale nei settori del manifatturiero di 15 paesi industriali nel periodo 1958-1967.

Tutta l'analisi si basa sulla cosiddetta ipotesi dell'industria « chiave », in quanto si suppone che esista un settore « chiave » della industria che determina il saggio complessivo di crescita dei salari monetari. ELT si propongono di evidenziare soprattutto gli aspetti di lungo periodo del comportamento della variabile « salari monetari ».

Il presente lavoro è un semplice esercizio econometrico che si propone di verificare se i risultati ottenuti da ELT con il loro modello di inflazione da salari per il periodo 1958-1967 si possono replicare per il quinquennio successivo, cioè dal 1968 al 1972.

OLECH'S THEOREM AND THE GLOBAL STABILITY OF WALRASIAN PRICE ADJUSTMENT WITH POSITIVITY CONSTRAINT

by
LEONARD F. S. WANG (*)

Abstract

This paper investigates the global stability properties of a Walrasian price adjustment with a positivity constraint, using Olech-Ito theorem on planar dynamic system. It is shown that stronger sufficient conditions are needed for global stability in a Walrasian price adjustment model if the equilibrium point and initial point are in the positive orthant. For cases in which both goods are gross substitutes or both goods are gross complements, the global stability of our model holds when, in addition to other sufficient conditions, the adjusted *own-price effect is stronger than the* net *cross-price effect on excess demand (in absolute value). When the goods are of opposite types — one a gross substitute and the other a gross complement — the model is globally stable, for when the price of the good is falling, the rate of price change is smaller than the marginal change in price adjustment with respect to the price, again in terms of absolute value.*

I. *Introduction*

There is considerable interest in economics in establishing the global stability of dynamic models. Olech [4] proved a theorem for the global stability of a C^1 planar system, and since then it has been used to investigate global stability in dynamic economic models. (See e.g. Garcia [1],

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Quirk [5], Smith [6], Takayama [8] and Wang [9]). Olech's theorem, however, does not guarantee positivity of the variables along the solution path of the system, which is unsatisfactory from the viewpoint of economics. Recently, Ito [2] has modified Olech's theorem by assuming that both the equilibrium point and initial point are in the positive orthant (1).

Smith [7] has examined the local stability properties of an economic system characterized by a Marshallian multimarket quantity adjustment rule, while Quirk [5] analyzed the global stability of a Walrasian multimarket price adjustment model by applying Olech's theorem. In Quirk's study, however, the positivity of the price vector is not guaranteed along a solution path. The purpose of this paper is to use the modified Olech's theorem to investigate global stability in a Walrasian model of interrelated markets with a positivity constraint. Section II presents theorems for global asymptotic stability. Section III deals with Walrasian price adjustment and stability. The results are summarized in Section IV.

II. *Presentation of Olech's Theorem and Ito's Modification*

Consider the following differential equation system in the real plane R^2:

$$\dot{x}_i = f_i(x_1, x_2), \qquad i = 1, 2, \tag{1}$$

where the f_i's are assumed to be of class C^1. Let (x_1^*, x_2^*) be a unique equilibrium point when $\dot{x}_i = 0$, $i = 1, 2$. If we assume the existence of a unique equilibrium point, then the following theorem proved by Olech [4] holds.

Theorem 1. Suppose that the following conditions are satisfied for the above system (1):

(a) $f_{11} + f_{22} < 0$ for all $(x_1, x_2) \in R^2$

(b) $f_{11}f_{22} - f_{12}f_{21} > 0$ for all $(x_1, x_2) \in R^2$

(c) either $f_{11}f_{22} \not\equiv 0$ for all $(x_1, x_2) \in R^2$

or $f_{12}f_{21} \not\equiv 0$ for all $(x_1, x_2) \in R^2$

where $f_{ij} \equiv \partial f_i / \partial x_j$, $i, j = 1, 2$. Then the equilibrium point (x_1^*, x_2^*) is unique and globally asymptotically stable.

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(1) More recently, KONDOR [3] considered a system of differential equations with nonnegativity conditions and proved that the system is asymptotically locally stable if a subsystem without the nonnegativity conditions is asymptotically locally stable, provided a simple (mathematical) condition prevails.

Ito [2] observed that the transformation $(v, w) = (e^{x_1}, e^{x_2})$ leads to the following global stability result for the system

$$\begin{aligned} \dot{v} &= h(v, w) \quad \text{for all } (x_1, x_2) \in R^2_+ \\ \dot{w} &= k(v, w) \quad \text{for all } (x_1, x_2) \in R^2_+ \end{aligned} \tag{2}$$

assumed to be of class C^1 in R^2_+.

Theorem 2. Suppose that there is an equilibrium point (v^*, w^*) of system (2); i.e., $h(v^*, w^*) = k(v^*, w^*) = 0$, and if the following conditions are satisfied:

(i) $\left(h_v - \frac{h}{v}\right) + \left(k_w - \frac{k}{w}\right) < 0$ for all $(v, w) \in R^2_+$

(ii) $\left(h_v - \frac{h}{v}\right) \cdot \left(k_w - \frac{k}{w}\right) - h_w k_v > 0$ for all $(v, w) \in R^2_+$

(iii) either $\left(h_v - \frac{h}{v}\right) \cdot \left(k_w - \frac{k}{w}\right) \neq 0$ for all $(v, w) \in R^2_+$

or $h_w k_v \neq 0$ for all $(v, w) \in R^2_+$

where $h_v \equiv (\partial/\partial v) h(v, w)$ and h_w, k_v, and k_w are similarly defined. Then the equilibrium point (v^*, w^*) is unique (positive) and globally asymptotically stable.

This result follows immediately from Theorem 1 by observing that

$$f_{11} = h_v - \frac{h}{v}, \quad f_{12} = \frac{w}{v} h_w, \quad f_{21} = \frac{v}{w} k_v, \quad f_{22} = k_w - \frac{k}{w}.$$

The following corollary has a stronger but more useful condition for the global stability in the positive orthant.

Corollary: The result of Theorem 2 holds if (i)-(iii) are replaced by the following conditions.

(i)′ $h_v < 0$, $k_w < 0$ for all $(v, w) \in R^2_+$

(ii)′ $h_w k_v < 0$ for all $(v, w) \in R^2_+$

(iii)′ Whenever $h < 0$, $\frac{h_v v}{h} > 1$, for all $(v, w) \in R^2_+$

and

Whenever $k < 0$, $\frac{k_w w}{k} > 1$ for all $(v, w) \in R^2_+$.

Note that (i)′ and (ii)′ are the sufficient conditions for global stability in the whole plane, and (iii)′ keeps the solution path from hitting the

axes(²). Proofs of the theorems are omitted here. For detailed proofs of the theorems, the interested reader is encouraged to read Olech [4] and Ito [2].

III. *Walrasian Price Adjustment and Stability*

We consider a model of a competitive economy in which there are only three commodities. Let $E_i(P)$, where $P = (P_1, P_2, P_3)$, denote the excess demand function of the ith commodity. Assume that an equilibrium-price vector exists, i.e., there is (P_1^*, P_2^*, P_3^*) such that

$$E_i(P_1^*, P_2^*, P_3^*) = 0, \qquad i = 1, 2, 3$$

The *tâtonnement* adjustment process is described by

$$\frac{dP_i}{dt} \equiv \dot{P}_i = g_i[E_i(P_1, P_2)], \qquad i = 1, 2 \tag{3}$$

where $g_i[\cdot]$ has the properties $g_i[0] = 0$, $g_i' \equiv \dfrac{dg_i}{dE_i} > 0$.

Note that by adding the homogeneity assumption of the excess demand function, we normalize the price vector P such that $P_3 = 1$ always. Due to Walras' Law, $E_1 = 0$ and $E_2 = 0$ imply $E_3 = 0$. Hence it suffices to consider the adjustment process of the first two markets for stability analysis.

The stability properties of the linear approximation to system (3) may be examined by expanding the right-hand side of the system around the equilibrium price vector P^* in a Taylor series, dropping all but the linear terms to obtain

$$\dot{P}_1 = g_1'[E_{11}(P_1 - P_1^*)] + g_1'[E_{12}(P_2 - P_2^*)] \tag{4}$$

$$\dot{P}_2 = g_2'[E_{21}(P_1 - P_1^*)] + g_2'[E_{22}(P_2 - P_2^*)] \tag{5}$$

Where $E_{ij} = \partial E_i/\partial P_j$ evaluated at P^*. As a matter of classifying goods, we say that good i is a gross substitute for good j if $E_{ji} > 0$; good i is a gross complement for good j if $E_{ji} < 0$; and good i is independent of j if $E_{ji} = 0$. Notice that these gross relationships are not necessarily symmetric even in qualitative terms. Thus good i may be a gross substitute for j, while good j is a gross complement for i.

(²) WANG [10], in an unpublished paper, « A Note on the Global Stability of Dynamic Systems with Boundary Condition », Purdue University, 1979, presents a theorem of the global stability of system in R^2_+ with boundary conditions.

We are now in a position to investigate the sufficient conditions for global stability of this system in the positive orthant. It is assumed that both the equilibrium point and the initial point are in the positive orthant, which would assert positivity of variables along the solution path by applying the modified Olech's theorem. Furthermore, we assume the following signs for partial derivatives:

Assumption 1.

$$E_{11} < 0 \text{ and } E_{22} < 0, \text{ for all } (P_1, P_2) \in R^2_+ .$$

This assumption, which implies that an increase in own price leads to a decrease in excess demand, is almost always true.

Assumption 2.

$$\text{Either } E_{12} > 0 \text{ and } E_{21} > 0 \text{ for all } (P_1, P_2) \in R^2_+$$
$$\text{or } E_{12} < 0 \text{ and } E_{21} < 0 \text{ for all } (P_1, P_2) \in R^2_+$$

This states that both goods are either gross substitutes or gross complements.

Assumption 2′.

$$\text{Either } E_{12} > 0 \text{ and } E_{21} < 0 \text{ for all } (P_1, P_2) \in R^2_+$$
$$\text{or } E_{21} < 0 \text{ and } E_{21} > 0 \text{ for all } (P_1, P_2) \in R^2_+$$

Assumption 2′ says that both goods are not necessarily gross complements or gross substitutes—good i may be a gross substitute for good j, while good j is a gross complement for good i, or vice versa.

Quirk [5] has shown that by applying Theorem 1 the two-good system is globally stable under Assumption 1 and 2 as long as the own-price effect is larger than the cross-price effect on excess demand. Also, the two-good system is always globally stable under Assumption 1 and 2′. The positivity of (P_1, P_2) in this system, however, is not guaranteed along a solution path. In order to satisfy the economic requirement of positivity of (P_1, P_2), we should apply Theorem 2 and its Corollary, instead of Theorem 1 to the Walrasian price adjustment system. However, we need some additional assumptions in order to use Theorem 2 and the Corollary.

Assumption 3.

For one good i

$$\varepsilon_{ii} \equiv E_{ii} \frac{P_i}{E_i} > 1 \text{ must hold, } i = 1, 2, \text{ for all } (P_1, P_2) \in R^2_+ ,$$

where ε_{ii} is the elasticity of the price adjustment of the ith good with respect to the price of the good. In words, Assumption 3 is satisfied when

the rate of price change is smaller than the marginal change in price adjustment with respect to the price, in absolute value.

Assumption 4.

$$(\varepsilon_{11}^{-1} + \varepsilon_{22}^{-1}) < 1 \quad \text{for all } (P_1, P_2) \in R^2_+$$

and

$$E_{11}E_{22}\,[1 - (\varepsilon_{11}^{-1} + \varepsilon_{22}^{-1})] > E_{12}E_{21} - \frac{E_1E_2}{P_1P_2} \quad \text{for all } (P_1, P_2) \in R^2_+$$

For the case in which both goods are gross substitutes or both goods are gross complements, Assumption 4 requires that (i) the sum of the inverses of the elasticities of excess demand must not exceed one, and (ii) that the *adjusted* own-price effect is stronger than the *net* cross-price effect on excess demand, in absolute value.

Assumption 5.

$$\text{If } \dot{P}_1 < 0, \text{ then } \varepsilon_{11} > 1 \text{ holds for all } (P_1,P_2) \in R^2_+$$

and

$$\text{If } \dot{P}_2 < 0, \text{ then } \varepsilon_{22} > 1 \text{ holds for all } (P_1,P_2) \in R^2_+$$

According to Assumption 5, when the price of the good is falling, the rate of price change is smaller than the marginal change in price adjustment with respect to the price, in absolute value.

We use Theorem 2 and its Corollary by Ito [2] as well as the above assumptions to obtain the following results.

Theorem 3. Under Assumptions of 1, 2, 3, and 4, the equilibrium point (P_1^*, P_2^*) of the system (4) and (5) is globally stable in the positive orthant.

Proof.

$$\left(E_{11} - \frac{E_1}{P_1}\right) + \left(E_{22} - \frac{E_2}{P_2}\right) < 0\,,$$

by Assumptions 1 and 3, and Walras' law, i.e.,

$$P_1E_1 + P_2E_2 = 0\,;$$

$$\left(E_{11} - \frac{E_1}{P_1}\right)\left(E_{22} - \frac{E_2}{P_2}\right) - E_{12}E_{21} \equiv E_{11}E_{22}\,[1 - (\varepsilon_{11}^{-1} + \varepsilon_{22}^{-1})] - E_{12}E_{21} + \frac{E_1E_2}{P_1P_2} > 0\,,$$

by Assumptions 1, 2, 4, and Walras' law.

Conditions (i), (ii), and (iii) of Theorem 2, therefore, are satisfied for the Walrasian system. Q.E.D.

Theorem 4. If Assumptions 1, 2′, and 5 are satisfied, then the equilibrium point (P_1^*, P_2^*) of the system (4)-(5) is globally stable in the positive orthant.

Proof.

$E_{11} < 0$, $E_{22} < 0$, by Assumption 1;

$E_{12}E_{21} < 0$, by Assumption 2′;

If $\dot{P}_1 < 0$, then $\varepsilon_{11} > 1$, by Assumption 5;

and

If $\dot{P}_2 < 0$, then $\varepsilon_{22} > 1$, by Assumption 5.

In this case, the conditions of the corollary to Ito's theorem 2 are satisfied for the Walrasian system. Q.E.D.

IV. *Summary*

This paper has examined the sufficient conditions for global stability with a positivity constraint within the framework of a Walrasian price adjustment model. By applying a modified version of Olech's Theorem, it is shown that stronger sufficient conditions are needed for global stability in a Walrasian price adjustment model if the equilibrium point and initial point are in the positive orthant. For cases in which both goods are gross substitutes or both goods are gross complements, the global stability of our model holds when, in addition to other sufficient conditions, the *adjusted* own-price effect is stronger than the net cross-price effect on excess demand (in absolute value). When the goods are of opposite types — one a gross substitute and the other a gross complement — the model is globally stable, for when the price of the good is falling, the rate of price change is smaller than the marginal change in price adjustment with respect to the price, again in terms of absolute value.

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IL TEOREMA DI OLECH E LA STABILITÀ GLOBALE DELL'AGGIUSTAMENTO WALRASIANO DI PREZZO CON VINCOLI DI POSITIVITÀ

Questo saggio esamina il problema della stabilità globale di un sistema walrasiano di aggiustamento dei prezzi sotto vincoli di positività, mediante l'impiego del teorema di Olech-Ito sui sistemi dinamici. Si dimostra che le condizioni sufficienti di stabilità globale in un modello walrasiano siffatto diventano piú forti se tanto il punto di equilibrio che il punto iniziale giacciono nell'ortante positivo. Nel caso di due beni che sono succedanei lordi oppure complementari lordi, il modello qui impiegato è globalmente stabile quando, in aggiunta ad altre condizioni sufficienti, l'effetto diretto dell'aggiustamento di prezzo è piú forte dell'effetto netto incrociato sull'eccesso di domanda (in valore assoluto). Se i beni sono di diverso tipo — l'uno succedaneo lordo, l'altro complementare lordo — il modello è globalmente stabile, giacché, quando il prezzo del bene scende, il saggio di mutamento di prezzo è piú piccolo del mutamento marginale dell'aggiustamento di prezzo rispetto al prezzo, anche qui in termini di valore assoluto.

BRAIN MIGRATION FROM THIRD WORLD: AN IMPLICATIVE ANALYSIS

by
B. N. GHOSH (*)

Abstract

The study purports to analyse the implications of brain migration from the points of view of LDCs. It critically examines the views expressed by nationalists and internationalists in this context. The implications of brain exchange and brain export are found to be beneficial types of brain migration, brain drain involves a loss of strategically important manpower, slowing down the tempo of development and creation of large external diseconomies. Brain overflow, for a thickly populated LDC, can act as a safety valve to release the surplus manpower, and thereby to minimise educated unemployment problem. Brain drain is a form of exploitation by the developed capitalist countries. The brain is wooed away without paying any compensation. Brain drain is, in fact, a form of reserve transfer of technology.

Introduction

The study on the implications and effects of brain migration is a nebulous area of research with many unsettled issues lurking around. A macro theory of international migration is concerned with the problems of effects of migration on the emigrating and the immigrating countries. Such a study is dominated by mainly two approaches — internationalist and nationalist, which may be briefly outlined here.

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Internationalists vs. Nationalists

To the internationalists, brain drain is a natural process benefitting the sending country, receiving country and the individual migrants. The developing countries benefit because they are able to shed out the useless manpower whose opportunity cost is zero and the stock of human capital of developing countries would be less without the opportunities provided by the « Grants Economy ». The internationalists observe that intellectual resources are supernormal and cosmopolitan. If the free flow of such resources is not hampered, their spontaneous distribution throughout the world will lead to a maximisation of world production on the basis of optimum productivity through international division of labour. International mobility of factors of production including human capital will lead to factor price equalisation which will reduce inequalities of payment and maximise the welfare and income of the skilled personnel. According to them, it is but natural that capital should flow from surplus to deficit area and this can also ensure the optimum allocation of world resources.

A number of advantages are claimed for brain drain from the low developed countries by the so-called cosmopolitan writers. It is said that brain drain involves non-zero sum game benefitting both the emigrating and the immigrating countries. The outflow of HQM reduces unemployment, raises the domestic capital-labour ratio, increases productivity, income and output and also maximises the welfare of the non-migrants (1).

It is also argued that skilled people who go abroad ultimately return with better qualification and training. They lend consultancy services to the domestic economy, occasionally visit the native countries and render help to the resident country by publishing their research results and by making their improved knowledge available to them. For instance, Chinese nuclear capability was built up by the Chinese scientists after they returned from American universities [4]. Brain drain has brought reputation and prestige to the sending countries and has also opened up opportunities for foreign training and education [23].

Grubel and Scott find that brain drain, in general, increases welfare and income [10]. According to them, if the sending country wants to maximise income, emigration is helpful. In terms of the global welfare function, the loss on account of brain drain appears to be minimal, and in fact, disappears in the long run. Economic power, they observe, does not depend so much on output but on per capita income which may or may

(1) Among others, Harry Johnson, Grubel and Scott, Kanappan, Myint, Usher and Mishan hold such a view.

not be affected by emigration. In comparison to the possible short term loss due to brain drain, the benefits from emigration are indeed great in terms of remittances and the spread effect of the advanced research and technology made possible by the HQM.

Dan Usher found that the emigrants abandon their shares of public property in the country of origin and acquire a share of the same in the immigrating country. In fact, the immigrants receive more from their share in public expenditure than they give up by way of the taxes [28]. When the property is left in the native country, the non-migrants are benefitted.

Myint was explaining migration as a phenomenon which can correct disequilibrium in the demand for and the supply of HQM in LDC [18]. Brain drain not only reduces the gap between the demand for and supply of manpower but it is also capable of narrowing down the technological gap existing between the DCs and LDCs.

Be that as it may, the so-called internationalist view point has been vehemently criticised by the writers of the nationalist camp. International movement of factors of production is different from the movement of human capital. Brain drain does not involve free movement of individuals and it is also not based on the exchange economy because there is only the outflow of skilled people from the LDCs but not the corresponding inflow. The people who leave the developing countries are not all useless; on the other hand, they are crucial for the development of the capital-poor countries. Skill can, to a great extent, be substituted for capital in backward countries.

Migration, however, is not necessarily bad, if it is a two-way traffic. What is bad in brain drain is that it leads to a one-way migration of skilled manpower from the countries which have shortage of them and which require them very badly, to the countries which are saturated with specialists. In fact, the supply of very high quality manpower is indeed low in LDCs. Similarly, a universal and cosmopolitan economy is a conceptual abstraction. Amidst the growing inequalities between the poor and the rich countries, national development should be the first consideration for the poor countries. So long as the nation states exist, the concept of world economy or government cannot become a valid operational concept. For individual countries, per capita output is more important than the world output. Thus the question of maximization of world output is beside the point.

Throughout the world, income and price differentials exist even for unskilled manpower which does not play any role in brain drain. Dandekar

has refuted the trade theory explanation of brain drain by saying that income differential cannot explain the behaviour of non-migrants in whose case the differential is as important or as high as in the case of migrants [7]. If the « factor-price equalisation theorem » is correct, the skilled personnel from the Third World will go on moving into the advanced countries until the price of their services becomes equal throughout the world. But nothing of this sort has happened or is happening. The nationalists observe that since brain drain leads to more and more inequality, it cannot be thought to be a normal process. They maintain that through brain drain the rich countries are becoming richer and the poor poorer. If it is regarded as a normal process, why is the immigration of unskilled labour restricted by DCs?

It is also argued that the emigrating persons are not always benefitted by brain drain. The contingents do not always get jobs according to their choice, and works sometimes do not correspond to their education. Thus a physicist may have to work as a taxi cab driver and a teacher as a cleaner. The job conditions are sometimes very unpleasant and the contingents face racial and other discriminations, uncertainty, lack of adjustments, loss of skill, and even unemployment due to changes in labour market situation. To an advanced country, brain is like an ordinary commodity having no special prestige and value. While for the LDCs, brain drain leads to loss, wastage of resources, skill bottlenecks and lesser rate of growth; for the DCs, it is helpful to ease the shortage of necessary skill and to overcome the bottlenecks and disproportion in the labour market. The nationalists maintain that brain drain is very harmful for the sending country but is very helpful for the receiving country. This point has been countered by the internationalists.

Dan Usher has challenged the view that DCs gain by immigration from LDCs. The public expenditure in DCs goes up considerably as a result of immigration, and this results in net loss for DCs. Mishan and Needleman demonstrated that as a result of brain migration per capita income in U.K. has declined [15]. They have also argued that if net immigration occurs in conditions of high employment, prices in the host country rise relatively to prices abroad. In the absence of government control, the host country's propensity to import increases and balance of payment situation is adversely affected [16]. Immigration also generates various types of shortages in a market economy, e.g., housing shortage, transport bottleneck, lesser amenities of life and so on. J. T. Romans found that immigration is a burden because the cost of public services as an aftermath of immigration far outweighs the gains from the immigrants [22].

The internationalists also criticised the arguments put forward by the nationalists. Thus the criticism and counter criticism by one group against the other are sustained with much zeal and the controversy is still now kept alive.

Brain Migration: Effects and Implications

Unfortunately, the whole debate between the nationalists and the internationalists on the issue of the outflow of HQM from LDCs is based on a serious misconception of facts. Neither of the groups could appreciate the taxonomy of brain migration. They could not distinguish between the two major components of brain migration, viz., brain drain and brain overflow. Needless to say, their analyses were a hopeless mess of the conceptual ambiguities, which is the main cause of their differences. Unless we know the specific category of brain migration, we cannot precisely know its implications. In other words, depending on the type of brain migration, a country may have different effects. It is, therefore, necessary to use our classificatory scheme to gauge the effects of brain migration. Our analysis will show that while brain overflow is good for a less developed country, ridden with the problem of educated unemployment, brain drain is bad for a developing economy.

Brain exchange and brain export will not apparently have any marked repercussion on the LDCs because these are essentially based on *quid pro quo*. At times they will, of course, be very beneficial for both the partners, as each will receive what is better for its economy. By exchange and export of manpower, LDCs can improve their economic position. But the share of exchange and export in total brain outflow is still insignificant for most of the LDCs in the world. Although the export of human capital is sluggish in the world economy, it has promising prospects in some LDCs and DCs. Through export of brain, a regular source of income can be ensured to the exporting countries. It can also improve the foreign exchange position of a growing economy and thereby improve the balance of payment position. But the LDCs do not have any happy experience regarding the exchange of brains. The foreign technicians and experts who are frequently brought in LDCs have to be paid a very high salary and maintained at a very high cost without corresponding benefits. A good case can, however, be made for the exchange of HQM among the LDCs themselves.

Brain Overflow

Brain overflow, on the whole, is a beneficial process for a number of reasons. For thickly populated underdeveloped countries, brain outflow acts as a safety valve to release the surplus manpower. It can also considerably reduce the problem of educated unemployment and thereby can ease social tension, unrest among the young people, frustration and wastage of human resources. Since overflow involves unemployed manpower, its emigration implies the realisation of a huge amount of saving potential. Such manpower had been consuming from the social stock of production, making no saving (rather dissaving), paying no tax, and earning no income. The marginal productivity of such manpower in the domestic economy was zero or even negative. Thus, through their outflow, saving and investment can both improve, which can be utilised for the domestic capital formation. The outflow of this redundant manpower will mean extra saving which is at least equivalent to its consumption of food and clothing and maintenance cost. It is, therefore, sometimes felt that brain overflow from a LDC is not a loss (2).

In the case of unemployment brains, the marginal cost of providing public services remains very high because it is not compensated in any way by the corresponding tax from the unemployed people. The country, therefore, remains a net loser. Thus, in a sense, for public exchequer, the benefit from brain overflow is obviously higher than the involved cost in the context of zero tax revenue. Brain overflow does not lead to any diminution of output, for, by definition, the marginal productivity of surplus labour is at least zero. In such a situation, income gained in the form of additional saving realised as a result of syphoning off the surplus labour is an absolute advantage of brain overflow. It has to be specified that unemployed brains do not possess any capital to work with in home countries and the capital embodied in them in the form of education is raw and inexperienced, and being unemployed, they do not possess any capital. Therefore, the outflow of such brains does not involve any capital loss particularly in view of the fact that this manpower cannot be productively utilised in the home country. It cannot be denied that the immediate income gain both private and public is substantially larger than the capital loss if any, in the form of outflow of

(2) Morarji Desai in the capacity of Finance Minister of India told in Calcutta on 15th December, 1968 that brain migration is not a loss to India.

unused educated manpower. The beneficial impact of brain overflow can be explained by the following diagram (Fig. 1) on the assumption of a given stock of HQM.

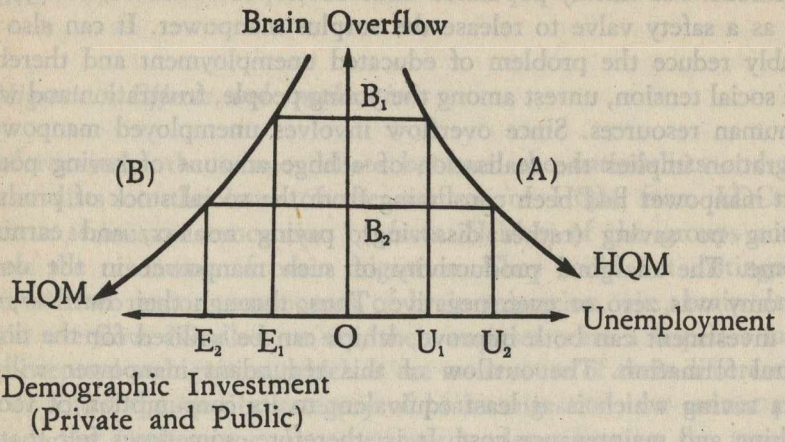

FIG. 1.

In Fig. 1 quadrant *A* shows the inverse relationship between brain overflow (vertical axis) and unemployment of *HQM* (horizontal axis) such that at B_2 amount of brain overflow, the corresponding educated unemployment is U_2 and at B_1 amount of brain overflow, educated unemployment is U_1. The *B* quadrant of the diagram shows the inverse relationship between demographic investment (cost) and brain overflow. It is clear from the diagram that when the brain overflow is high from a country both educated unemployment and demographic investment become low. Conversely, when brain overflow goes down, both unemployment and demographic investment go up. This shows that brain overflow can be very influential in socioeconomic spheres, and its effect is generally wholesome on the economic and social development of an under-developed country.

The gains from brain overflow becomes still larger once we take into account the remittances sent by the overflow *HQM* from abroad. There is an increasing amount of evidence that the remittances are not only very important but very large. However, this is an issue which is very much neglected in the literature. For a very low income country like Bangladesh, the remittances that have been received are between $200 and $250

million and for India the recent figure is $2.5 billion (3). Professor Schultz observes that when this figure for one year is put against the expenditures for education in India, it indeed goes a long way to compensate for the cost of a great deal of the education in India. The remittances of Indians employed abroad to India increased from Rs. 14.4 crores in 1960 to Rs. 135 crores in 1970. In contrast to the negligible remittances by Indians employed abroad prior to 1973, remittances from abroad increased at a rapid rate since 1973. Inward remittances to India from non residents increased from Rs. 191 crores in 1973 to Rs. 239.8 crores in 1974, Rs. 477.8 crores in 1975, Rs. 633.1 crores in 1976 and Rs. 820.0 crores in 1977 [14]. India receives Rs. 500 crores in foreign exchange a year from the Gulf Indians alone [13]. These remittances form a large part of total export earnings.

Among the selected countries from which export of labour takes place to the Gulf countries, foreign exchange earning from emigrants was largest in the case of Pakistan with $1,110 million in 1977 followed by Egypt $1,025 million; India received $1,000 million (Table 1). It can be observed from the Table that among countries that received the major

TABLE 1.

REMITTANCES REPATRIATED BY EMIGRANTS
(Million Dollars)

Country	1973	1974	1975	1976	1977
Afghanistan	—	—	—	—	200
Bangladesh	—	18	43	53	75
Egypt	87	189	340	615	1025
India	235	297	535	713	1000
Jordan	45	75	167	411	425
Korea	154	154	158	195	172
Pakistan	151	230	353	590	1110
Philippines	—	104	128	112	130
Sri Lanka	—	—	3	7	12
Sudan	—	—	—	12	40
Yemen Arab Republic	129	156	307	796	1000
Yemen People's Democratic Republic	33	41	56	115	179

Source: IMF, *International Financial Statistics*, 1979.

(3) Prof. T. W. Schultz of Chicago University in a private communication to Dr. B. N. Ghosh of Panjab University, on October 25, 1979 has mentioned these figures on remittances.

share of remittances, India's position was at the top during the period 1973-1975. The earnings from the export of surplus labour have helped in augmenting India's foreign exchange reserve. In a sense, foreign exchange bottleneck of India since the second five year plan has been eased with the large inflow of remittance from abroad. The remittances to India and their shares in total reserves, import and export is shown in Table 2.

TABLE 2.

INWARD REMITTANCES TO INDIA (Rs. in crores)

As at the end of the year	Remittances	Level of reserves (excluding gold and SDRs)	Imports	Exports
1973	191.0	376.8 (50.7)	2413 (7.9)	2261 (8.5)
1974	239.8	587.4 (40.8)	4087 (5.9)	3179 (7.5)
1975	477.8	754.3 (63.3)	5338 (9.0)	3643 (13.1)
1976	633.1	2298.5 (27.5)	5074 (12.5)	4969 (12.7)
1977	820.0	3998.3 (20.5)	5793 (14.2)	5554 (14.8)

Note: Figures in the parentheses indicate percentages.
Source: IMF, *International Financial Statistics,* 1979.

As this Table shows, in 1973, remittances accounted for as much as 50.7 percent of India's foreign exchange reserves; but it came down to 20.5 per cent in 1977 as the total reserves rose rapidly. The remittances represented 8.5 per cent of the value of India's total export in 1973, but it rose to 14.8 percent in 1977. In the case of imports, the remittances formed 7.9 per cent and 14.2 per cent respectively for the same period.

Remittances in other countries are also similarly increasing. South Korean doctors during 1964-68 sent home more than $14 million; Turkey received a remittance of $70 million in 1965 from its people living in U.S.A.; Lebanon received yearly 400-600 million Lebanese pounds from her citizens living abroad [32]. However, in the absence of a separate study on remittances for category-wise brain migration, it is very difficult to appreciate the nature, magnitude and impact of remittances. Whatever information we could gather on remittances from our very limited survey in Calcutta, Chandigarh and Delhi is very revealing indeed. It is found that most of the unemployed educated brains of India migrate mainly to the Gulf countries and Africa, whereas the employed brains

prefer to go to U.S.A., U.K., Canada and so on. The remittances sent by the overflown brain are comparatively large. The brains that overflow abroad keep their families in the country of origin and send almost their entire income back for their families which could make a substantial saving out of the remittances. The overflow is mainly from the low-income families as revealed in our survey. This implies that after meeting the limited budget in accordance with the modest standard of living, a large part of the money can be invested in trade and industries.

Thus, brain overflow, as the Indian condition depicts, is welfare-raising and development-inducing type of brain migration. It does not affect the average level of education in the country either at present or in the future; but on the other hand, brain overflow covers almost wholly the private and the public cost of human capital involved. It is not harmful in the short run; nor does it create any dislocations and require any organisational change.

Brain Drain

Brain drain is a fish of an entirely different kettle. It involves the loss of strategic manpower and that too from the key positions in a country. As such, it will create many dislocations and require a drastic organisational change. The losses involved in brain drain as calculated by Comay, Bowman, Myers, Sjaastad, Weisbrod and others through the present value approach, are found to be very high indeed. The losses involved in brain drain are of many types, e.g., loss of present production, loss of future production, loss of present saving, loss of future saving emigrants would have made, loss of taxes and loss of potential innovations and so forth. Firstly, the LDCs would experience the loss of valuable skilled personnel. Skill formation in these countries is palpably sluggish although the requirement is really very high. In fact, the highly skilled manpower is rare in any country. India is desparately in need of both physical and human capital, and cannot certainly afford to lose the strategic manpower. Secondly, brain drain involves the loss of money invested in the education, training and skill formation (4). At present there are 250,000 professionally skilled Indians in U.S.A. Presuming the average education and training cost of a specialist to be $20,000 the loss sustained by India so far as a result of brain drain to America alone comes to $5 billion.

(4) For the extent of monetary loss, see, B. N. GHOSH, « Some Economic Aspects of India Brain Drain into United States », *International Migration*, Nos. 3&4, 1979.

Highly qualified strategic persons are essential for capital and skill formation, education, research and training, infrastructure-building and economic and social development. Thus, by brain drain, the LDCs become loser and poorer, and development is halted. Brain drain leads to more and more inequality in the distribution of skilled manpower in the world. International inequality accentuates because of the fact that whereas brain drain reduces the income and production of the emigrating country, it makes the economic position for DCs better off. Myrdal argues that the movement of skilled personnel is harmful to the sending countries, because such economies suffer from « Backwash Effect » as a result of brain drain. The LDCs become more and more backward due to brain drain.

A report prepared by ARE for UNESCO points out that brain drain is an immoral process hampering progress in the developing economies and depriving them of the badly needed skilled personnel. Brain drain is morally obtuse in at least two senses: (1) the strategic manpower of LDCs is wooed away (ii) no compensation is made to the brain among countries by the brain receiving countries. Brain drain damages the morale of those who cannot emigrate. The demoralising consequences erode the socio-psychological situation and lead to national frustration. The leadership and the creative contribution of science, technology and development, which the emigrating people would have made, are lost by the sending country as a result of brain drain. The indirect costs of brain drain are many. Some of these are: slow-down in production, weakening of administrative and executive structures, rebuilding of skill, apathy of the state to skill formation and so on. By brain drain the intellectual climate of the country is very much adversely affected. Without the intelligentsia, the idea of progress cannot be spread effectively. Thus, brain drain hampers social development, modernisation and economic growth.

Thomas Romans observes that migration of HQM reduces the average educational level of the country [22]. The emigration of HQM widens the technological gap and increases the technological dependence of the domestic country. During 1951-62, India entered into 2,200 agreements for the import of technology of which 30 per cent were from U.K. and 20 per cent from U.S.A. and the rest was from other developed countries. When the process continues, people only train themselves at home with the sole aim of ultimately emigrating abroad, and in the process, the national moral value, culture and tradition are neglected. A decline in the moral values results in selfishness, careerism and even corruption. All these adversely affect patriotism, national solidarity and creative activity. The loss of critical manpower which can influence the Govern-

ment policies is a serious loss, particularly for the politically and the economically weak developing economies. As a matter of fact, external diseconomies involved in brain drain are indeed very large [19].

The more skilled the emigrant, the more is the possibility of unemployment in the sending country, at least temporarily. The emigration of managerial class will automatically reduce domestic employment [22]. If an engineer, under whom 15 persons are working, leaves the country, the 15 people become unemployed until his position can be filled. There is a high complementarity of HQM to other productive resources. The flight of HQM from the domestic economy leads to a reduction in productivity. The loss from brain drain is enormous in the short period. In the long run, the loss of HQM is partly replaced in a growing economy. Brain drain may involve zero-sum game and the propagation of research result may be constrained by patent or by CIA secrecy requirement. Thus, the brain-sending country cannot take any advantage of the superior knowledge of its brain living abroad.

Grubel and Scott's study comes out with the observation that international migration of human capital reduces military and economic power by a very small amount in the short time horizon, and in the longrun the loss disappears [10]. Only under rare circumstances, brain drain could reduce welfare. However, the short run loss is more than outweighed by the benefits of emigration. Grubel and Scott's findings have been challenged by Berry and Soligo [3], among others. They demonstrated that emigration causes loss to nations. Similar conclusion is upheld by Weisbrod [31], and Bhagwati and Hamada [5]. Depending upon the structure and the institutional set up of a country, brain drain can be said to have varying welfare effects, as observed by Bhagwati and Hamada. Brain drain of highly gifted manpower results in welfare loss for the sending-country. Anteny Ward regards brain drain as a manifestation of exploitation of less developed countries by developed capitalistic countries [30]. He observes that over the generations, the majority of emigrants are reduced to an exploited and marginal group in the society. In an empirical study conducted in 1972, UNCTAD calculated income gains to the receiving-countries and income losses by the sending countries as a result of brain drain [26]. Aitkin's study demonstrated that brain drain not only reduced welfare but it also redistributed income from unskilled labour to the remaining skilled labour [1]. What is good for the U.S., is not necessarily good for the whole world, remarks Brinley Thomas.

Harry Johnson's analysis was not able to show welfare gain as a result of brain drain, though, he, as an internationalist, intended to rigorously demonstrate it [12]. Let use explain his following diagram (Fig. 2).

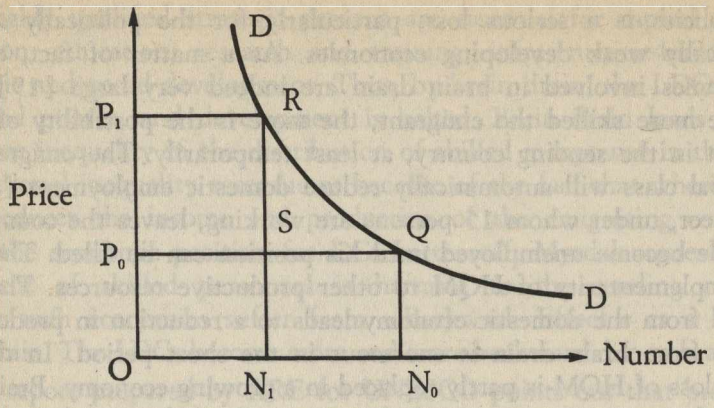

FIG. 2.

In Fig. 2, *DD* is the demand curve of the population for specialised services, N_0, is the initial supply of professionals and P_0 is the price for their services. If N_0N_1 people leave the country, the loss of consumers surplus is QP_0P_1R, but the non-migrants' income increases to the extent of P_0P_1RS. This leads to a net loss of QRS. According to Johnson, this marginal loss will vanish when the supply of professionals increases as a result of their increased price. This conclusion of Johnson is not at all tenable, at least on two counts. Firstly, increased supply of professionals is not simply a function of enhanced price. Granted it is so, increased supply of HQM will once again decrease the price, and therefore, the subsequent supply. Secondly, the increased supply of HQM, given the domestic absorptive capacity, will lead to more brain drain which will sustain the net loss of consumers surplus. Thus, Johnson's diagram could not effectively prove the positive welfare implication of brain drain process.

The welfare implication of brain drain can be related to capital that migrants take along or leave behind. If capital is left behind, capital-labour ratio will increase and income gain would be substantially high for the non-migrants; but if capital is taken along, capital loss will more than outweigh the income gain, and as a result, society will experience welfare loss [10, 11, 13].

Brain drain involves loss of capital in two senses: (i) loss of gifted, experienced and very highly qualified and skilled human capital and (ii) loss of physical capital accompanying the permanent emigrants, and also the loss of their working capital. It is to be recalled that brain overflow representing unemployed brains presumably cannot create any capital or

do not have any working capital. If we take the above explanations to be correct, brain drain will make the capital-labour ratio lower in the domestic economy in which case capital loss would more than offset the income gain. This is explained by the following diagram (Fig. 3).

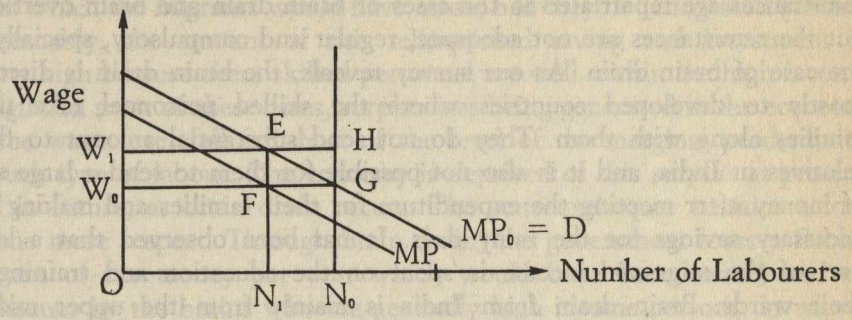

FIG. 3.

The emigration of N_0N_1 amount of employed skilled workers leads to a rise in wages, from W_0 to W_1. The total income gained by the non-migrants is the area W_0FEW_1 which is smaller than the area W_0GEW_1 which is lost by the society as a result of the reduction in capital-labour ratio brought about by the flight of capital through brain drain. Therefore, the net loss sustained by the non-migrants is the triangle *EFG*. This loss occurs for two reasons: (I) decrease in capital-labour ratio as a result of brain drain and (II) relative increase in the supply of other factors leading to a fall in marginal productivity and in price. It is now clear that brain drain reduces a country's total stock of social capital. Therefore, productivity after sometime will come down and along with that the wage level, making thereby the position reversed and worse off. Our analysis is based on the presumption that the value of emigrant's capital both physical and human is higher than the country's average per capita endowment of human and physical capital. If this presumption is correct, as seems to be plausible, the welfare loss as a result of brain drain indeed becomes very high. However, the net loss in the domestic economy, triangle *EFG*, is more than offset by the increase in the migrant's income of *EFGH*. While the domestic economy loses as a result of emigration of skilled personnel, the emigrants themselves gain.

In the case of brain overflow, there being no question of output loss, the realisation of saving potential will directly lead to net income gain. But, for brain drain, capital loss and hence output and production loss

will more than swamp out the income gain. No doubt, the migrants earn more income but there is no satisfactory system to compensate the losses to those left behind. The society does not compensate the losers. Thus, migration of HQM from LDCs is not a Pareto optimal situation. True, remittances are repatriated in the cases of brain drain and brain overflow; but the remittances are not adequate, regular and compulsory, specially in the case of brain drain. As our survey reveals, the brain drain is directed mostly to developed countries where the skilled personnel take their families along with them. They do not send substantial amount to their relatives in India, and it is also not possible for them to send a large sum of money after meeting the expenditure for their families and making the necessary savings for the rainy days. It has been observed that a large part of the migrants' income is spent on the education and training of their wards. Brain drain from India is mainly from the upper middle class and rich families. This implies that not only the average cost of living of the migrants is high but that they have had a propensity to spend on conspicuous consumption which not merely reduces the amount of remittances but also reduces the effective saving of their relatives in India out of the remitted amount.

In this context, the findings of two other studies made in India may be corroborative [14]. Remittances are a special type of transfer payment in the sense that these are essentially a transfer of personal income used partly for consumption and partly for investment. Very little empirical work has gone into the question of channelisation of the resources arising out of remittances to productive investment. However, two studies undertaken by Bombay Chamber of Commerce and Industries in respect of the impact of inward remittances received in certain villages of Kerala and Gujarat have made some interesting observations about the pattern of use of the remitted money.

These studies show that a good bit of the remittances are channelled in the form of high expenditure on consumption goods, purchase of durable goods and property, or investment in securities, trade and business including speculation. The study on the impact of remittances received in certain villages of Kerala does not seem to have triggered off an era of sustained growth in the state. The study particularly pin-points the fact that much of the money flowing into the state from abroad has not been used for productive purposes. Investment in debentures, shares and securities has been almost nil. These observations, thus, indicate that the savings of the Indians employed abroad were not channelised for development purposes according to the national priorities. It can, therefore, be stated that brain

drain cannot lead to an adequate compensatory payment to the losers, and it cannot cover the public and private cost of human capital involved in brain drain, albeit it partly meets the private cost.

Brain drain deprives the emigrating country of the saving and investment which the migrants would have made, had they not emigrated abroad. Presumably, the amount of this relinquished saving and investment is pretty high because these skilled personnel are well within the high income margin. In most of these cases, surplus was being generated in the economy as the wage level fell far short of the level of the marginal productivity of such type of labour. The economy is deprived of this surplus at present and in future, as brain drain occurs. The state exchequer sustains a loss in one more respect. Through brain drain, the government loses a flabby amount of tax money per year which would have been contributed to exchequer by the brains who are generally high income persons, in whose case tax is much higher than the marginal cost of public goods they consume. Thus, the government is deprived permanently of an important source of net revenue. All these unmistakably substantiate the fact that brain drain is not merely a welfare-cum-income reducing phenomenon, but it also considerably hampers the growth process of a low developed country on many counts, one of which is the conspicuous trend of Reverse Transfer of Technology from the LDCs to DCs. Let us discuss this aspect in a bit more elaborate manner.

Brain Drain and Neo-Colonialism: Reverse Transfer of Technology

The problem of brain drain is generated and intensified by the deliberate neo-imperialistic policy of developed capitalist countries. The exploitation by them continues unabated but in a different fashion in the sense that while in the pre-industrial revolution, the capitalist countries drew resources from the colonies in the form of physical capital, in the post-industrial revolution period, they are drawing away the human capital resources from the LDCs. Thus, Richard Titmus calculated that the U.S. saved about 4 million dollars due to the immigration of approximately 100,000 professionals in the period 1949-67. The losses involved are not merely the financial outlay but the real loss is the permanent one of subsequent reduction in productivity, slower growth of intellectual leadership and retarded innovative spirit in the affected country ([5]). The brain that

([5]) The losses can be interpreted in terms of the loss of educational investment, the cost of relinquished alternatives, the loss of life-time income, the loss of interest on invested capital and also the social loss.

is wooed away by the developed countries is never paid its public or social cost, and as such, the brain sending countries always remain losers and brain receiving countries always gainers.

The most important item in the international intercourse today is not food, fuel and fibre but transaction in technology. The developed countries consider themselves as the vectors of technological salvation in the modern world. The U.S.A. every year exports technology to the extent of Rs. 36 thousand crores but it imports only Rs. 4 thousand crores worth of technology. To correct her structural imbalance created by the rapid spurt in the demand for HQM as against its almost static supply, the U.S.A. has to import HQM, the seed-corn technology, from the LDCs. This transaction in HQM is made in such an evasive way that ultimately no price for the use of HQM is required to be paid to the country that supplies the HQM. It is estimated that by 1985, the rest of the world will pay the U.S.A. $23 billions as dividends, fees and royalties for the transfer of technology. In fact, American technology is produced largely by the HQM of the Thirld World. Immigration to America is equal to the annual output of about 5 per cent of the institutions of higher studies in U.S.A. [11]. Similarly, about 50 percent of the British National Health Services is now staffed by non-Britons, and the influx of doctors representing an annual savings of over Rs. 40 crores to the British exchequer [21].

The present technological supremacy of the U.S. would be difficult to maintain, if the supply of HQM to America is stopped or reduced. Instead of importing raw materials, DCs are now importing brains from LDCs without giving any compensation. This shows that in the international economic relations, the colonial-metropolitan nexus is still now prevailing. The HQM is obtained as raw materials, turned into finished products and sold out to colonies at an exorbitant direct or indirect price. Between 1964 and 1970, India paid Rs. 285 million in royalty payments and Rs. 285 million in technical fees. In addition, she paid Rs. 173 million to foreign technicians. Thus, in a period of six years, India paid a total foreign exchange of Rs. 742 million for American technology [6]. Modern LDCs provide both raw materials (HQM) and the market for the goods produced by the capitalist countries. This sort of technological imperialism leads to international « Backwash Effect » making the poor areas poorer and the rich areas richer.

The idea is often propagated that the capitalist countries have been helping the LDCs by giving them aid and assistance. This apparently innocuous statement has to be taken with a caveat. Let us give it a close look. According to the UNCTAD report, in 1970, U.S.A.'s aid to LDCs

amounted to $3.1 billion. India received from the U.S.A. during 1950-51 - 1975-76, Rs. 5410 crores of aid which roughly comes to Rs. 360 crores per year on an average [9]. As against this, the income gained by U.S.A. through brain drain from LDCs amounts to $3.7 billion [27]. This shows that whatever aid is given by the U.S.A. to the LDCs is more than compensated by the brain gain. The highest contribution to the net income gained by the U.S.A. is made by the developing countries of Asia particularly. India's contribution in this respect was $874 million in 1970. Each of the following countries received a milliard dollar worth of aid after War II, e.g., India, Brazil, Chile, Columbia, Iran, Israel, Pakistan, South Korea, Taiwan, and Turkey. But these are also the countries which provided about two-thirds of those professionals who settled down in U.S.A. The U.S. sends as many experts to the developing countries as she receives from them via brain drain [29]. But the telling tale of exploitation is adequately revealed by the fact that while the U.S.A. does not pay a single buck for the brain obtained from LDCs, she is highly paid for the services of her exports who happened to be mostly the HQM from the poor countries. Thus, the leader cunningly rides on the laggards and wins the rat race of capitalistic game.

The U.S. Secretary of State, Mr. Cyrus R. Vance, while making a statement on foreign assistance programme before the Congressional Sub-Committee on 29.3.1979 stated that U.S. aid to LDCs is beneficial to U.S. ([6]). He made the following observations in support of his statement:

(1) In 1977, developing countries bought $42 billion of U.S. merchandise — more than one-third of all U.S. export.

(2) During the 1970s, sales of goods to LDCs grew 50 per cent faster than U.S. sales to industrialised countries.

(3) Over the past five years, LDCs have provided more than 25 per cent of the raw-materials the U.S.A. uses.

For expanding market for their products, U.S. has increased foreign aid from $3.7 billion in 1965 to $7 billion in 1979. Money given to LDCs as aid ultimately comes back to U.S. as import demand of LDCs. Apart from royalties and licensing fees, remitted earning from LDCs on U.S. direct foreign investment comes to $4 billion [17]. An estimated 2

([6]) Statement by U.S. Secretary of State, Department of State, Washington, D.C., p. 17. President Kennedy made a similar statement at the time of establishment of AID. McNamara also observed that foreign aid was in the interest of the donor countries because the large donated amount ultimately came back to them. See, Robert S. McNAMARA, *One Hundred Countries, Two Billion People, The Dimensions of Development,* Praeger Publishers, New York, 1973, p. 20.

million American jobs depend on exports to developing countries. For every dollar that the U.S. contributes to international financial institutions that give aid, the recipients spend dollar 2 to buy goods and services from the U.S.A. [24]. Huge amount of profit is earned from the LDCs by the agents of foreign capitalists. In India, foreign subsidiaries earned total profit of Rs. 412 million in 1964-65, which went up to Rs. 755 million in 1969-70 [6]. The so-called foreign aid is nothing but an economic tool to prop up the sagging industries of the donor countries and to make the donees dependent on the former. The aid is mostly tied and the debt servicing requirement is abnormally high. « The biggest single misconception about the foreign aid programme is that we send money abroad. We don't. Foreign aid consists of American equipment, raw materials, expert services and food. 93 per cent of the aid funds are spent directly in the U.S.A. to pay for these things » ([7]). A British Government pamphlet on Foreign Aid said that « about two-thirds of all our aid is actually spent in Britain ». A former World Bank President, George Woods, has observed that some countries have made it clear that they consider development finance as nothing more than a disguised subsidy for their exports. It is clear that the conditions of aid are directly intended to serve the interest of the countries providing it.

On the other hand, the loss sustained by the developing countries on account of brain drain is enormous. 38,000 HQM which migrated to the U.S. between 1962-66 represented a loss of $7.6 milliard. Between 1949-61, about 3922 skilled personnel left India for U.S., and this represents a value of $1055 million [2]. In 1970, India lost nearly 875 million dollars for the brain drain of 3,141 HQM to U.S.A. The U.S. on the other hand gains substantially from the brain drain from LDCs. The income gained by U.S.A. and lost by India per unit of immigration in 1970 is given in Table 3.

In the above income gain of USA, Asia contributed $2,901 million, Africa $374 million and Latin America $387 million. The developing countries' contribution to U.S. becomes nearly $45 million every year. The technologically backward countries pass on a substantial part of their technological assets (brains) each year to advanced countries which are apparently technologically superior. However, LDCs' assistance to U.S.A. becomes more overwhelming than American aid to these countries. It is in this sense, that the concept of reverse transfer of technology from LDCs to DCs can be looked upon as a more detrimental dimension of the

([7]) William GAND, while writing in the State Department Bulletin, December 9, 1968, made this observation.

TABLE 3.

NET INCOME GAINED BY USA FROM IMMIGRATION OF HQM FROM DEVELOPING COUNTRIES (1970) UNDER MEDIAN ASSUMPTIONS
(Unit = 1000 US Dollars)

	Gross income gained per immigrant	Income lost per immigrant	Net income gained per immigrant	Number of immigrants	Total Net gain
Social Scientists	253	23	230	471	108,330
Natural Scientists	258	23	235	2,154	506,190
Engineers	297	44	253	6,400	1,619,200
Physicians	690	44	646	2,211	1,248,306
Total	...	...	...	11,236	3,662,026

Source: UNCTAD, *Reverse Transfer of Technology*, as quoted in *Mainstream*, No. 16, 1974, p. 45.

brain drain problem. It is estimated that the social benefit to U.S.A. is more than three times as great as the social cost to India as a result of brain drain [8]. Foreign capital investment by DCs ensures the principal along with interest; but the outflow of HQM from LDCs constitutes a permanent loss. Whatever foreign aid is given by the DCs is more than taken away by the shrewd trade practices, unfavourable terms of trade, high rate of interest and royalty charges.

The UNCTAD study on the reverse transfer of technology has made it abundantly clear that the net income transfer from the developing countries to the U.S. in the form of brain drain is a massive amount. It is also interesting to note that some of the biggest contribution are made by countries that are among the poorest in the developing world itself. As a matter fact, the reverse flow of technology nullifies the tall claim for neo-imperialist aid to Third World.

The loss of technology is more harmful than the loss of skill, and it will account for the widening gap between rich and poor areas and will also reduce the capacity of the LDCs to borrow and assimilate foreign technology. In fact, U.S.A. never exports the current and improved technology to LDCs, but she only parts with the technology of old vintage [25]. The DCs are trying to help economic development of LDCs, but on the other hand, enacting immigration laws that encourage the flight of skilled labour from poor countries. The process of brain drain has become faster since the change in U.S. Immigration Laws in 1965. Foreign aid to LDCs opens up a channel for professionals to emigrate in a way that cannot be attacked within the present order of power relations and the

technology imposed on the LDCs is wholly inappropriate. The amount of aid given to LDCs is far less than the amount of HQM drawn away from them.

Other things remaining the same, brain drain in a country following a colonial development policy remains high. The colonial legacy can be witnessed in many LDCs even today in different walks of life, e.g., in the education system, in the application of technology, in wage structure and so forth. Lack of indigenous value premise and borrowed technology make a class of strange self-centered professionals who remain disintegrated from the main stream of life and become always ready to emigrate from the country. Educational and cultural domination by the DCs give further encouragement to brain drain. The DCs woo away the brains from LDCs by giving financial temptation. But such brains never work for their own countries. In fact, what our scientists do is decided outside and has no relevance for India [20]. Much is being done in India in the area of fundamental research at a very low cost for the U.S.A.([8]). In the name of research collaboration with LDCs, the developed capitalist countries are dangerously using the human, non human and ecological resources of the backward countries. This is evident in many joint projects undertaken in India. DDT and Filaria research in India has been done with the help of Indian scientists but with no benefit to India. Malaria and Filaria have appeared once again in India. Indian scholars neglect important areas of research and simply follow the dictates of the western powers still now. Examples are abundant to show that in the pretext of helping India, the DCs are in fact exploiting our country and are getting fully the acquiescence of a scientific bureaucracy and technological neo-imperialism.

In the field of technology, the western models are promiscuously applied. Technology transfer form LDCs to DCs is denied by the latter on the ground that knowledge is a universal public good. But it is strange that the same notion about knowledge is not entertained by the DCs in the matter of patent which is the embodiment of the universal knowledge. Out of 3 million current patents in the world, LDCs hold only 30 thousand. If knowledge is a public good, why do the DCs charge for the export of technology which is based on knowledge? The answer to this question smacks of clear neo-imperialistic design which admits of no humanitarian or moral consideration about the struggle for economic development by the LDCs.

When all is said and done, we can zero in on the discussion by mentioning the most of the more important effects of brain drain and brain overflow side by side.

([8]) The empirical examples of U.S. domination over India education are given in Binoy Kumar Roy, *U.S. Infiltration in Indian Education,* New Delhi, 1974.

	Brain Overflow	*Brain Drain*
1.	Decreases educated unemployment.	May increase unemployment.
2.	No loss in the short run.	Loss in the short run.
3.	No loss of saving and investment.	Loss of saving and investment.
4.	Does not affect average education and research.	Affects education and research.
5.	Does not affect marginal productivity and wage of the non-migrants.	Initially increases wage and marginal productivity of the non-migrants; but ultimately decreases them.
6.	Removes the loss since the brain was unemployed.	Removes the surplus since marginal productivity was higher than the wage.
7.	Income gain is absolute as there is no output loss.	Output loss is greater than income gain.
8.	Income gain is greater than capital loss.	Capital loss is greater than income gain.
9.	Gain of state revenue, as marginal cost of public goods provided is greater than tax revenue which is zero.	Loss of net revenue for the state, as tax is greater than marginal cost of public goods provided.
10.	Remittances add to saving and investment and are large. Remittances cover almost the entire public and private costs.	Remittances meagre and mostly spent on conspicuous consumption. Remittances cover only the private cost.
11.	No question of compensation as non-migrants are not losers.	Non migrants are losers but there is no compulsory system to compensate the loss — remittances are voluntary and are inadequate.
12.	Does not hamper the growth process, rather helps it in the short run.	Hampers the growth process in the short run.
13.	The effect is, in general, welfare increasing for the non-migrants.	The effect is welfare reducing for the domestic economy as a whole.

The effects of brain migration from LDCs are overwhelmingly large and varied, and as such, are not capable of being stated in a generalised manner. A meaningful study of the effects must take into account *inter alia,* the type of brain migration, the state of economic development, the time dimension and the short run and long run economic desiderata of the

country. It is very essential to specify clearly the objective function the country wants to maximise during the given period of time. For instance, if the country wants to maximise employment as the objective function, brain overflow may be a welcome proposition, but if the country desires to maximise growth, brain drain becomes an important constraint. However, the objective function itself is a function of many factors and sometimes it becomes too difficult to objectively determine the objective function.

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LA MIGRAZIONE DEI CERVELLI DAL TERZO MONDO: ANALISI DELLE IMPLICANZE

Si è guardato alle conseguenze della migrazione dei cervelli da due direzioni diverse. Il punto di vista nazionalista considera la sottrazione di cervelli come un processo che rallenta il reddito, la crescita e il benessere di un sistema e promuove l'ineguaglianza tra paesi. Secondo una prospettiva piú internazionale, la migrazione di cervelli risponde a un processo naturale di ottimizzazione di reddito, di benessere e di sviluppo. Conduce all'eguaglianza dei prezzi dei fattori, favorisce l'allocazione ottimale del capitale umano e la divisione del lavoro sul piano internazionale. Entrambe le vedute implicano però enormi malintesi concettuali, giacché chiamano sottrazione di cervelli (*brain drain*) ciò che tale non è.

Lo scambio o l'esportazione di cervelli sono fenomeni migratori di reciproco beneficio ai paesi che li attuano e realizzano processi attraverso i quali i paesi in via di sviluppo possono raggiungere significativi risultati economici. In particolare, lo sbocco migratorio di cervelli in eccesso non conduce a riduzioni di prodotto, giacchè la loro produttività marginale è nulla. Situazioni di eccesso corrispondono infatti a disoccupazione di risorse, che, attraverso l'esportazione, realizzano un potenziale di risparmio spesso di considerevole rilievo.

Il caso della sottrazione di cervelli è invece diverso e corrisponde alla fuga di forze di lavoro che già occupano posizioni strategiche in un sistema. In tal caso la fuga di cervelli si accompagna necessariamente a perdite considerevoli di capitale incorporato nell'uomo e influisce negativamente sui processi di apprendimento ossia di formazione di un tale capitale. Il processo di crescita di un paese ne soffre.

La fuga o sottrazione di cervelli è una forma di sfruttamento perpetrata dai paesi piú sviluppati ai danni delle economie in via di sviluppo. Deriva e s'intensifica con le politiche neoimperialistiche di quei paesi. Senza alcun compenso oggigiorno i paesi avanzati sottraggono risorse umane ai paesi poveri in luogo di materie prime o di capitale fisico. Il lavoro esamina gli effetti principali della fuga dei cervelli e individua le variabili che debbono figurare nello studio del fenomeno.

FOOD, ENERGY AND DEBT SERVICING AS RESERVE AND DEVELOPMENT CONSTRAINTS OF LESS DEVELOPED COUNTRIES

by
TOMOTAKA ISHIMINE (*)

Abstract

Many less developed countries are saddled with a serious shortage of foreign currency. This has had an effect of slowing down their attempt for economic growth. From a long run perspective, any LDC that wishes to achieve and maintain a reasonable growth rate must find ways to earn enough foreign currencies to finance its development needs. Yet, reserve saved is as good as reserve earned at least from a short run viewpoint. Every year much foreign currency reserves are drained in financing importation of food and energy and in accommodating debt servicing. This paper discusses these problems and attempts to find ways to lessen the reserve drainage.

Introduction

During the 1970s the gross national product of less developed countries (LDCs) grew at an annual rate of 5.5%, but because of continued growth in population, their per capita income grew only at 2.8%. Although the LDCs' growth rate of per capita income was comparable to that of the developed countries (DCs), the rate indicated that the absolute gap in the standard of living between LDCs and DCs further increased during the decade. The slow growth rate in LDCs' per capita

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income, coupled with the absolutely low level of income, implies that for a foreseeable future many LDCs will suffer from concomitant phenomena of poverty such as disease, malnutrition, poor health, illiteracy, urban miseries and hopelessness. All the nations, the rich and the poor alike, see the need for accelerated growth for LDCs if the world is to attain economic, social and political stability. The ambitious goals of the United Nations Third Development Decade, in which the growth rates of LDCs' GNP and per capita income for the 1980s were set at 7% and 4.5% respectively, attest the need and the concern for an accelerated growth. Whether the actual performance of LDCs in this decade will surpass that of the last is yet to be seen.

Economic development requires an enormous amount of capital. Part of it can be attained internally through domestic saving. However, the vicious circle of low income-low saving makes it difficult for many LDCs to attain sufficient amount of capital internally. Part of capital can be supplied externally by DCs through direct foreign investment, loans and aid. What concerns many countries is that there has been a considerable slackening in the supply of foreign capital in recent years for a number of reasons: the world-wide economic recession, political instability in some parts of the world, continuing deficits and increased credit riskiness in many LDCs, and high interest rates and more stringent conditions on loans demanded by DCs.

This background directs our attention to the third avenue of obtaining development capital, namely earning foreign currency reserves through greater efforts for exporting and controlling imports. The policies to control imports in the 1960s, known as the import substitution, however, were not very successful because resources were channeled to wrong directions through tariff and non-tariff protection of inefficient industries of domestic import substitutes. On the other hand, the policies of encouraging exports in the 1970s, notably tariff preferences, encountered considerable resistance among DCs due to DCs' own policies of protecting labor-intensive industries. It is with this background that we turn our attention to the problems of food, energy and debt servicing that haunt many LDCs, with a view of saving reserves so that the scarce resources can be used for importation of capital goods and technology, and for upgrading human resources of LDCs.

I. *Food and Agriculture*

In view of absolute poverty and low income that exist in LDCs, the most imminent problem in LDCs is an increase in food production.

Lack of adequate food has contributed to disease, malnutrition and poor health in LDCs. Malnutrition and disease adversely affect labor productivity both in rural and urban sectors, which in turn, hamper efforts for economic development. And yet many LDCs whose mode of production is agricultural have become dependent on imported foods. In view of the fact that many LDCs suffer from balance of payments deficits and shortage in foreign currency reserves, it is imperative that productivity in agriculture and food production must be drastically increased.

In making greater efforts for food and agricultural production, LDCs must face a number of problems. Food and agricultural production are vulnerable to weather conditions. Since agricultural products are known to be price inelastic, they are also subject to wide price fluctuations. On the other hand, improvement in agricultural productivity is slow and a greater number of LDCs have become importers of food in recent years. This trend is likely to continue in the future. According to an estimate made by the Food and Agricultural Organization, LDC's need for grain imports will reach 72 million tons and the need for DCs's food aid to cover LDCs' domestic production and food imports will reach 15 or 16 million tons by 1985. In contrast, DCs aided LDCs in grains by 9.7 million tons in the 1978-79 grain year (July-June).

In order to raise agricultural productivity, DCs have provided various technical assistance to LDCs through bilateral and multilateral agreements and through exchange of technicians. One obstacle for permeation of agricultural technology has been the reluctance for introducing new agricultural techniques on the part of farmers in LDCs and the lack of basic education and low rates of illiteracy that are more serious in the rural area than in the cities.

Efforts have been made for research and development in agriculture to produce high-yield crops by national and international organizations. The Green Revolution in the 1960s is the most notable example, through which some LDCs succeeded in producing high yield rice and other grains. However, a lack of rural infrastructure such as irrigation and transportation systems is a serious obstacle for rural development.

There is a great need for a greater use of fertilizers and pesticides if acreage output is to be improved. The recent increase in the oil prices have contributed to the rise in the price of fertilizer and pesticide and made it more difficult for farmers to obtain them. For countries that do not have domestic chemical industries and thus must depend on imported fertilizer, the increase in the price of fertilizer has further contributed to an adverse balance of payments position. A greater adoptation of

agricultural machines and equipment is also a prerequisite for increased production. DCs have assisted LDCs in providing more fertilizer, agricultural machines and building fertilizer plants through various grants and aids.

Land reform is another major task that must be faced by many LDCs. It takes a long-term investment to build an irrigation system and to improve the quality of land, but landless tenants lack incentives to carry out such long-term projects.

The importance of cooperatives must also be emphasized. Activities such as planning in production, rationalization of marketing and distribution, provision of credit and permeation of agricultural technology can be facilitated by encouraging and assisting establishment of cooperatives.

It has often been pointed out that unrealistic price policies in food designed to help urban dwellers have provided a disincentive to farmers for an increase in agricultural production. Chronic flow of excessive quantities of aid in food from DCs may have discouraged local farmers by narrowing the market and depressing prices in LDCs. It is necessary for many LDCs to review their price policies and reintroduce market incentives if they are deemed necessary.

II. *Energy*

LDCs' energy consumption accounted for only 12% of the total world energy consumption of 137.8 million barrels/day in oil equivalent in 1980. The consumption has been increasing at an annual rate of 6.2%, higher than that for DCs which stood at 3.9%. This indicates that the share of the world energy consumption by LDCs will increase in the future as their economy and population grow and urbanization and industrialization continue. The potential energy endowment of non-oil producing LDCs is not very encouraging. While LDCs have 34.8% of the world total potential in hydroelectric power, their share in oil, natural gas and coal remains extremely low: 1.4%, 3.2% and 2.1% respectively, according to a report by the World Bank. Availability of oil, or lack of it, has serious implications for economic development of non-oil producing LDCs. First, the need for oil imports provides a drag for the balance of payment deficits and drains foreign currency reserves that can otherwise be used for importing capital goods and technology necessary for economic development. Since 1972 the price of oil has increased by 14 times in nominal value and five times in real value by 1980. Non-oil producing LDCs paid $7

billion in imported oil in 1973. The amount reached $67 billion in 1980. The increase in the oil price affects LDCs not only directly through larger import bills for oil, but also indirectly through a rise in the price of imported manufactured goods. The impact is particularly adversely felt for low income LDCs whose exports are mostly primary goods and therefore, cannot transfer the burden of the high cost of imports by raising the price of primary goods. The World Bank estimates that the import bill for oil by LDCs will grow at least to $230 billion in 1990, assuming 3% of annual rate of increase in the oil price.

The higher price of oil has also contributed to high inflation rates for many LDCs. Although LDCs' consumption of oil is small in absolute quantity relative to DCs', the ratio of oil consumption against LDCs's GNP is substantially higher than that for DCs. Excessive inflation in LDCs therefore is likely to have serious impact on the standard of living in LDCs.

The energy problem will affect agricultural development and technological innovation in agriculture. Operation of agricultural machines and irrigation systems require oil, which in turn, will increase the production cost in agriculture as the oil price rises. The rise in the price of fertilizer and pesticide due to the higher price of oil, or difficulty in obtaining them, will adversely affect agriculture. The energy problem affects LDCs efforts for industrialization as well, especially in developing energy-intensive industries such as the heavy industry and the chemical industry. Industrialization must be proceeded by taking into account the continuing increase in the energy price. Efficient use of energy will become a primary concern in selecting production processes, types of energy and size of plant. Alteration in the transportation system may also be required, shifting away from the use of automobiles toward a mass transportation system based on railways. Overall economic plans in LDCs must establish an optimal energy supply based on scarcity and high price of energy.

III. *Debt Servicing*

Because of inadequate domestic saving and chronic deficits in the balance of payments, many LDCs must depend on foreign capital. If their economies continue to grow in correspondence to the increase in foreign debt, their ability for debt amortization may not be seriously affected. However, in the light of huge deficits in the balance of payments and precipitous accumulation of their debt in LDCs, some DCs have begun to wonder if LDCs' debt accumulation has not exceeded the ability for servicing for some countries.

Needless to say, OPEC members' surplus in the current account sharply increased from $7.5 billion in 1973 to $59.5 billion in 1974 due to the quadrupling of the oil price. The OPEC surplus since decreased to $4.5 billion in 1978 due to the ambitious policies of industrialization and the recession in DCs which the precipitous increase in the oil price had exacerbated. However, a large increase in the oil price in 1978 has again brought huge surpluses in the OPEC members current account.

Meanwhile, deficits in the current account of non-oil producing LDCs increased from $7.5 billion in 1973 to $26.0 billion in 1974. Deficits decreased temporarily in 1976 and 1977 due to the boom in the commodity market but again increased in 1978. Their deficits totaled $34.5 billion and $49.5 billion in 1979 and 1980 respectively.

The chronic deficits of non-oil producing LDCs and rapid industrialization of OPEC countries have both contributed to huge debt accumulation in the 1970s. The total deficit accumulated stood at $86.6 billion in 1971, which grew to $451.0 billion in 1980 in nominal value. This was an eight-fold increase in the debt outstanding over ten years. Approximately 20% of the debt accumulated was incurred by OPEC nations despite their huge oil revenue. This is due to an increase in export credit from DCs to finance imports of plants and other capital goods needed for industrialization. When the nominal value of debt accumulation is deflated by the 1971 export price index for industrial goods from DCs, the resulting real value of debt outstanding of all LDCs was $158.6 billion.

Among total loans provided to LDCs by the DCs' governments and private sectors, there has been a trend for official development assistance (ODA) to decline and commercial loans to increase. Whereas ODA's share was 37.4% of total loans, it was 22.6% in 1980. Since ODA is provided at concessional terms, this trend has made the LDC's overall burden of loans heavier than before. The difficulty is reflected in the discrepancy that while debt outstanding increased by 5.2 times during 1971-80, amortization increased by 8.1 times. Of the total amortization in 1980, ODA loans accounted for only 5.7% as compared to 13.8% in 1971. The decreasing proportion of ODA amortization indicates the increasing role that private financial institutions have played in financing LDCs' development since the first oil crisis of 1973.

There has also been a tendency for loans to concentrate on a few countries among LDCs. Three countries, Brazil, Mexico and Algeria alone accounted for 26.2% of total debt outstanding. Top ten countries amassed 51.5% of the total loans outstanding in 1979. This trend for concentration continued throughout the 1970s.

In the light of pressing need for development capital and chronic deficits in the balance of payments on one hand and mounting debt accumulation on the other, DCs have occasionally provided rescheduling for debt servicing to LDCs. How much foreign loan a country can absorb rests on complex factors such as its GNP, current accounts, economic policies, political stability and resource endowment. However, an immediate concern is how to recycle huge oil revenues accumulated by OPEC countries through the Euro-dollar market and international agencies. According to an OECD report, oil producing countries had oustanding assets of $236 billion in 1979 on top of the surplus of $114 billion in the current account in 1980. There has been a concern that unlike the years that followed the oil crisis of 1973, the oil producing nations may not be in a spending mood this time around. They have learnt that a precipitous increase in development programs may induce adverse consequence in the domestic economy such as runaway inflation and a bottleneck in the social infrastructure. At any rate, the private sector is likely to continue to play an important role in recycling the petrodollar through the provision of loans, export credits and direct investment.

Although the DCs' governments and international financial organizations can play a greater role in assisting LDCs for their efforts for economic development, the ultimate burden rests on LDCs themselves. They must strengthen their economy and must take the advice of IMF and other international organizations in carrying out the structural adjustment in their economy. From a broader perspective, providing debt relief does not contribute to a long term solution.

Conclusion

LDCs have made rather substantial progress in economic growth, but not enough progress has been made in per capita income. Among many constraints for their economic development, shortage of foreign currency reserves has been an important one. Without reserves, many LDCs find themselves in difficulty in importing capital goods that are necessary for their economic development. Yet many LDCs spend scarce reserves in importing a large quantity of food despite their agricultural background. The recent development in the oil market has compelled LDCs to divert a substantial amount of reserves in importing oil. Shortage in reserves has necessitated LDCs to acquire official and private loans from DCs, which in turn compelled LDCs to spend a considerable amount of reserves for debt servicing.

In the light of these recent developments, it is imperative that LDCs must cast a critical look at their past performance in food and agricultural policies, find ways to conserve energy and make every effort to reduce their dependence on foreign loans by increasing domestic saving. Loans, especially official loans, are still important until LDCs build the capacity to earn or save enough reserves. Debt rescheduling may be occasionally necessitated but frequent rescheduling in ODA may induce private capital to move to those countries whose burden is reduced, which is not necessarily desirable from the viewpoint of optimal resource allocation.

Since many DCs are becoming reluctant to supply loans because of the recession in the domestic economy and their perception of LDCs' riskiness, it is necessary for DCs to reevaluate the importance of the policies of tariff preferences to be provided to LDCs. Tariff preferences can be considered as an efficient form of foreign aid. They are efficient because the cost involved on the part of DCs are relatively small and revenues earned by LDCs can go through the existing industrial structure of LDCs with a minimum economic and social disruption. In selecting commodities for which tariff preferences are to be provided, DCs must be aware that as time changes, countries' comparative advantage change and that by passing DCs' declining industries to LDCs, a more equitable income redistribution is made on the global scale. From the viewpoint of DC's own policies of structural adjustment, it is preferable to encourage new, prospective industries than to protect declining industries that compete with products from LDCs.

The recent problems of debt accumulation and servicing remind us of the important role DCs' direct foreign investment can play. Development capital acquired through direct investment, unlike loans, need not be reimbursed except that some amount of profits may leave LDCs. A point often missed by LDCs is that in this age of LDCs' sovereignty and independence, foreign investment stands for mutual benefit. No LDCs are forced to accept direct investment that does not provide benefits to the host country. It is high time for LDCs to engage in serious efforts and business-like discussion on promoting economic development of LDCs rather than perpetually invoking memories of remote historical relations in the past. Meanwhile all DCs must make renewed efforts for achieving the goal of sharing 1% of their GNP with LDCs in various forms of economic cooperation, of which 0.7% must be official development assistance. Perhaps OPEC nations and socialist countries whose aid amounted to 7.3% and 2.5% of all aids respectively in 1979, can play a greater role in assisting LDCs' efforts for economic development.

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ALIMENTI, ENERGIA E SERVIZIO DEL DEBITO QUALI VINCOLI ALLE RISERVE E ALLO SVILUPPO DEI PAESI MENO SVILUPPATI

Diversi paesi sottosviluppati sperimentano situazioni di seria carenza di valuta estera. Questo fatto ha avuto l'effetto di frenare i loro sforzi diretti allo sviluppo dell'economia. In un quadro di lungo periodo, ogni paese arretrato che ambisca a raggiungere e conservare un tasso di crescita ragionevole deve trovare la maniera di procurarsi flussi di valuta sufficienti al finanziamento delle necessità di sviluppo. Tuttavia nel breve andare le riserve risparmiate servono altrettanto bene delle riserve guadagnate. Ogni anno una gran quantità di riserve di valuta estera vengono assorbite nel finanziamento di importazioni di alimenti e di energia e nel soddisfare le ragioni dei creditori esteri del paese. Il presente lavoro discute il problema soprattutto sotto il profilo della politica economica e della possibilità di trovare strade per alleviare l'assorbimento di riserve su questi fronti.

RECENSIONI (BOOK-REVIEWS)

DEMARIA G.: *Elementi di critica economica.* Recensioni Comparazioni e Indicazioni Bibliografiche, raccolte per la prima volta da Achille Agnati e Aldo Montesano con una Introduzione e dai medesimi annotate, Padova, Cedam, 1983, f. 8°, pp. LXXXIX-1140, L. 80.000.

Solo due ex assistenti, il prof. Agnati dell'Università di Padova e il prof. Montesano dell'Università di Milano, legati a Giovanni Demaria da lunghi anni di spirituale comunione, tuttora attuale, potevano cogliere la rilevanza scientifica di scritti che, inseriti in varie riviste e difficilmente reperibili, rappresentano veri documenti di critica economica. Si tratta di circa un migliaio di titoli dati in forma anastatica, ognuno dei quali fornisce spunti preziosi sia dal punto di vista dottrinale sia dal punto di vista umano e ambientale. L'intelligente opera di raccolta è preceduta da una Introduzione di 27 pagine che ne coglie il significato, invitando ad apprezzare il frutto di tanta fatica.

Il contenuto della raccolta rispetto a qualsiasi altra disponibile, ivi compresa quella dello stesso maestro di Demaria, Gustavo Del Vecchio, si caratterizza dal fatto di abbracciare un lungo periodo fra i piú intensi della mutazione dell'ambiente economico dottrinale (1928-78). Propagatori ed entelechiani, e cioè «l'esogeneità permanente», assumono nel quadro puntuale rilevanza. E' infatti il reticolo di propagazione che avvinghia nei suoi lacci eventi e fatti economici, costringendo la dottrina alla lenta trasformazione dei suoi modelli, nella ricerca di renderli adeguati all'interpretazione del mondo reale.

Una lettura attenta delle recensioni qui riunite può essere considerata « come guida sia del fluire economicistico storico-teorico del periodo, sia del divenire scientifico dell'opera di Demaria ». Ma altresí come la propongono ancora gli autori stessi della raccolta, « guida dell'evolversi dell'attività economica e. spiegazione » del fluire sistematico dell'economia politica dagli inizi ad oggi.

Le recensioni includono scritti rigorosamente economici accompagnati da scritti extraeconomici, sempre essenziali per cogliere il *milieu* nell'ambito del quale si sono maturati. Sedici sono le classi tematiche in cui gli autori hanno suddiviso le recensioni comparse nelle riviste economiche piú note (Giornale degli Economisti e Annali di Economia, La riforma sociale, Revue d'économie politique, Cahiers Vilfredo Pareto, Kyklos, Rivista Internazionale di Scienze Economiche e Commerciali). Il ricordare le 16 classi significa anche cercare di cogliere una sintesi degli estesi interessi culturali che hanno occupato e tuttora occupano il Maestro. Queste le denominazioni: Biografie, Curiosità bibliografiche; Dinamica economica; Econometria; Economia marxista; Economia politica; Filosofia, metodologia e scienze morali, naturali, sociali; Geografia economico-politica; Istituzioni, legislazione economica e finanza pubblica; Metodi matematici e applicazioni; Realtà sociale e storia; Sociologia; Statistica teorica e applicazioni; Storia delle dottrine economiche, politiche, sociali; Storia dei fatti economici e statistiche economiche; Teorie monetarie, bancarie, creditizie e politica economica.

Gli autori recensiti nelle 16 classi sono annotati in un indice analitico per classi di argomento, che si rivelerà prezioso, insieme all'indice cronologico per testata di pubblicazione, per il lettore, che cercherà la critica di Giovanni Demaria su un qualche studio che lo possa al momento particolarmente interessare. L'enumerazione è seguita dall'indice dei nomi e inoltre dall'elenco degli scritti di Giovanni Demaria, anch'essi suddivisi secondo l'anno di pubblicazione. Si è offerto cosí uno strumento estremamente utile nello studio del pensiero del Maestro, poichè all'epoca delle singole recensioni corrispondono le relative preoccupazioni dottrinali dell'autore stesso. Un esempio si ha nella valutazione del linguaggio matematico che proprio in questo periodo ha trovato un diffuso impiego a proposito e a sproposito. All'eccessivo modellismo Demaria ha opposto la teoria aperta « seguendo la via delle approssimazioni successive », e dell'inclusione dei fatti nuovi, come sottolinea Montesano (p. XX). E' per questa ragione che piú volte ha stigmatizzato il distacco della teoria economica eccessivamente meccanicistica « incitando a una maggiore attenzione alla realtà economica ».

Le pubblicazioni recenti sono o di illustri economisti di altri tempi riproposti in anastatica, o di economisti, pensatori e uomini d'azione contemporanei e attuali, piú o meno noti, ma sempre per qualche aspetto significativi o nel pensiero economico o nella vita reale. I commenti che li illustrano, di volta in volta o critici, o polemici o costruttivi, sempre insieme incisivi e persuasivi, si trasformano in fonte di ulteriori approfondimenti. E pertanto ciò che insegna la raccolta, come bene hanno sottolineato i professori Agnati e Montesano nell'introduzione (p. XI) è che « la recensione dei libri serve perché il valutare la ragione storica che spinge l'economista a risolvere un problema economico porta a valutare la ragione scientifica venendo analizzata la logica che ne regge la tesi ».

La fatica di una sí complessa pubblicazione sarà certo adeguatamente apprezzata dal prof. Demaria, ancor oggi nel pieno della sua attività scientifica. Con la dedica si chiude l'introduzione dei suoi allievi: «Al Maestro Demaria dedichiamo, secondo la consapevole audacia della lealtà interpersonale della sua Scuola, questo lavoro di lunga e appassionata pazienza ».

MARIALUISA MANFREDINI GASPARETTO

SCAGLIOLA Domenico: *Procedure concorsuali.* 1983, Messina, Edas - Edizioni Dott. Antonino Sfameni, 2 voll., p. 913, s.i.p.

L'opera contiene il testo di tutte le decisioni della Corte Costituzionale in materia di procedure concorsuali dal 1956 al 1983, nonché di tutte le ordinanze di rinvio alla Corte stessa.

Essa si divide in tre parti riguardanti:

A) questioni di legittimità costituzionale delle norme penali concorsuali o dell'intero R.D. 16 marzo 1942 n. 267, contenente la disciplina del fallimento e delle altre procedure concorsuali;

B) questioni di legittimità costituzionale relative a singoli articoli del citato decreto n. 267 (i provvedimenti sono raggruppati articolo per articolo);

C) questioni di legittimità costituzionale relative a singoli articoli della L. 3 aprile 1979, n. 95 (e successive integrazioni e modificazioni) relative all'amministrazione straordinaria delle grandi imprese in crisi.

La raccolta è completa e di agevole consultazione. Può pertanto essere un utile strumento di informazione per studiosi e pratici delle materie concorsuali.

R. N.

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Banca Popolare di Novara

Società cooperativa a responsabilità limitata
Sede sociale e centrale in Novara
Registro Società Tribunale di Novara n. 1

Domenica 25 marzo 1984 si è tenuta in Novara l'ASSEMBLEA ORDINARIA E STRAORDINARIA della BANCA POPOLARE DI NOVARA, con l'intervento di n. 3.407 Soci.

Il Presidente, Cav. Gr. Croce avv. Roberto Di Tieri, sintetizzati gli aspetti più significativi dell'economia nazionale ed internazionale del 1983 e, in particolare, quelli relativi all'attività bancaria, ha illustrato l'andamento operativo e le risultanze aziendali dell'esercizio 1983, che così si compendiano:

— gli **impieghi** hanno raggiunto la consistenza di L. 4.826,5 miliardi, con un incremento di 849,7 miliardi (+21,37%) rispetto alla fine dell'esercizio precedente;

— la **massa fiduciaria**, nello stesso arco di tempo, è salita a 13.820,9 miliardi, con l'incremento del 13,75%;

— il **patrimonio sociale**, compresi i Fondi Rischi, si è portato a 1.006,5 miliardi, con una crescita del 34,00% sulla consistenza di fine 1982;

— nella **compagine sociale** sono stati ammessi nel corso del 1983 n. 5409 nuovi Soci: la consistenza a fine anno è di n. 108.416 unità, intestatarie di n. 37.692.056 azioni;

— l'**utile netto** è risultato di L. 44.396.630.234 e consente la distribuzione di un dividendo di L. 700 nette per azione.

Quanto sopra ha trovato riscontro nella « Relazione » del Collegio dei Sindaci, letta dal Presidente del Collegio stesso, Avv. Giulio Cesare Allegra.

Aperta la discussione hanno preso la parola, nell'ordine i Soci: Di Sisto Orsogna, De Zotti, Damonte, Jarach, Lombardini, Risé, Moré, Piccoli, Agazzi, Bellezza.

Il Presidente Di Tieri e l'Amministratore Delegato Venini hanno risposto agli intervenuti fornendo le relative delucidazioni.

Posti in votazione, sono stati approvati le Relazioni degli Amministratori e dei Sindaci, il Bilancio dell'esercizio 1983 con relativo Conto Economico e la proposta di riparto dell'utile netto.

In **sede straordinaria**, dopo gli interventi dei Soci: Bellezza, Moré, Agazzi, Damonte, Cesari, Ricci e Mairano, ai quali il Presidente Di Tieri e l'Amministratore Delegato Venini hanno fornito ampi chiarimenti, l'Assemblea ha approvato la modifica degli articoli 2, 3, 7, 12, 13, 15, 17, 20, 23, 24, 25, 27, 28, 29, 35, 36, 38, 39, 40, 41, 42, 43, 44, 48, 50, e la soppressione degli articoli 4, 5, 6 dello Statuto Sociale.

Il proposto aumento di capitale sociale, è stato approvato, **sempre in sede straordinaria**, secondo le seguenti modalità (con riferimento alle azioni in circolazione alla data del 31 ottobre 1983):

— Emissione a pagamento di nuove azioni da nominali L. 500, da offrire in opzione ai Soci in ragione di una azione nuova per ogni azione posseduta, al prezzo unitario di L. 10.000, di cui L. 9.500 a titolo di sovrapprezzo;

— emissione gratuita di nuove azioni del valore nominale di L. 500 da distribuire ai Soci in ragione di una azione nuova ogni due azioni possedute;

— determinazione di un rimborso spese di L. 20 per ogni azione di nuova emissione, sia essa gratuita o a pagamento.

Dopo le votazioni assembleari le cariche sociali risultano così costituite:

CONSIGLIO DI AMMINISTRAZIONE: **Presidente:** Avv. Roberto Di Tieri; **Vice Presidenti:** Prof. avv. Cajo Enrico Balossini e Dott. rag. Alberto Ricevuti; **Amministratore Delegato:** Cavaliere del Lavoro rag. Lino Venini; **Consiglieri:** Avv. Giulio Cesare Allegra, Prof. ing. Sergio Baratti, Cavaliere del Lavoro dott. Achille Boroli, Dott. rag. Giovanni Brignone, Avv. Marco Broggi, Avv. Antonio Bussi, Cavaliere del Lavoro dott. Luigi Buzzi, Cavaliere del Lavoro Conte dott. Alessandro Cicogna Mozzoni, Avv. Claudio Cocito, Dott. Edoardo Gregotti, Dott. notaio Federico Guasti, Cavaliere del Lavoro dott. Guido Maggia, Cavaliere del Lavoro Mario Pavesi, Dott. ing. Pietro Stella.

COLLEGIO DEI SINDACI: **Presidente:** Dott. Carlo Dulio; **Sindaci Effettivi:** Avv. Aldo Avondo, Dott. ing. Luigi Buscaglia, Prof. Giovanni Frattini, Rag. Giuseppe Scarpia; **Sindaci Supplenti:** Prof. Sergio De Angeli e Avv. Franco Zanetta.

COLLEGIO DEGLI ARBITRI: **Effettivi:** Dott. arch. Giuseppe Bronzini, Avv. Giovanni Scolari, Avv. Vittorio Tarditi; **Arbitri Supplenti:** Prof. Dott. Pietro Angelo Cerri, Avv. Francesco Fizzotti, Rag. Alberto Gramegna.

Il dividendo di L. 700 per azione è pagabile dal giorno 26 marzo 1984 presso tutti gli sportelli della Banca.

Bilancio 1983

Cifre chiare alla Vostra fiducia.

Il 122° esercizio dell'Istituto si è chiuso con un utile netto di 7.785 milioni, comprensivo degli apporti della Gestione di Credito Fondiario e della Sezione Opere Pubbliche. La raccolta bancaria e obbligazionaria ha sfiorato i 4.710 miliardi, con un aumento assoluto di 781 miliardi e relativo del 20%. Con riguardo all'attività di investimento va evidenziato che gli interventi complessivi dell'Azienda bancaria e delle Sezioni hanno raggiunto i 3.176 miliardi, cioè il 16% in piú del 1982. La compagine patrimoniale della Cassa si è ulteriormente rafforzata ed è risultata, dopo l'attribuzione degli utili, pari a 262 miliardi rispetto ai 190 miliardi del precedente esercizio.

(milioni di lire)

Cassa ed altre disponibilità	1.213.789	Depositi e conti correnti	3.585.194
Titoli e partecipazioni	1.700.994	Cartelle e obbligazioni	1.124.228
Impieghi Azienda bancaria	2.154.701	Utile netto	7.785
Impieghi Sezioni annesse	1.021.218	Fondi patrimoniali	261.999

SICILCASSA

CASSA CENTRALE DI RISPARMIO V.E. PER LE PROVINCE SICILIANE

229 sportelli in Sicilia

CASSA DI RISPARMIO DI PUGLIA

Bilancio 1983 XXXIV esercizio

Mezzi amministrati:	in milioni di lire
Raccolta	2.682.893
Conti diversi	609.681
Patrimonio fondi rischi su crediti ed utile d'esercizio	112.052
Totale	**3.404.626**
Impieghi economici	916.578
Impieghi finanziari	1.767.943

Il Consiglio di Amministrazione dell'Istituto ha esaminato ed approvato il bilancio relativo all'esercizio 1983 ed ha deliberato a norma dell'art. 34 dello Statuto, di destinare l'utile conseguito di L. 6.300.000.000 al Fondo Istituzionale per L. 1.650.000.000, ai Fondi di riserva per L. 3.150.000.000 ed al Fondo di beneficenza per L. 1.500.000.000.

Anche nel 1983 l'Istituto ha continuato pertanto ad operare con ottimi risultati al servizio dell'economia pugliese con le sue 89 moderne dipendenze, le 18 esattorie e la gestione di oltre 700 tesorerie di Comuni ed Enti vari.

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BANCA AGRICOLA POPOLARE DI RAGUSA

Bilancio 1983

La massa fiduciaria ha raggiunto 612 miliardi di lire

Con una partecipazione di Soci, quanto mai numerosa, domenica 18 marzo 1984 ha avuto luogo l'Assemblea ordinaria della Banca, chiamata a deliberare sul bilancio dell'esercizio 1983 — **94° dalla fondazione.**

Dopo le significative note introduttive del Presidente, Gr. Cr. Dott. Giambattista Cartia, è stata data lettura della relazione del Consiglio di Amministrazione e del Bilancio che i soci, dopo alcuni qualificati interventi, fra cui quello del Prof. Giuseppe Murè, improntati ad apprezzamento e riconoscimento per i lusinghieri risultati conseguiti dalla Popolare di Ragusa, hanno approvato all'unanimità.

La MASSA FIDUCIARIA è salita a L. 612.131.946.129, con un incremento del 25,60% rispetto al precedente esercizio.

Gli IMPIEGHI sono aumentati a L. 175.104.577.119, con un incremento dell'8,56%.

I titoli di proprietà sono passati da L. 173 miliardi a oltre L. 239 miliardi.

Il conto economico — dopo ammortamenti ed accantonamenti per complessive L. 21.486.586.104 — si chiude con un UTILE NETTO di L. 3.610.781.080, con un incremento di L. 557.763.097, rispetto a quello realizzato nel 1982.

Il Dividendo è stato stabilito in L. 600 per ogni azione di L. 500 v.n., contro le L. 480 del precedente esercizio.

Il PATRIMONIO, per effetto della sottoscrizione di nuove azioni effettuata nel corso dell'anno, della rivalutazione per conguaglio monetario di cui alla Legge n. 72/1983, dei passaggi e delle assegnazioni deliberati dall'Assemblea, ammonta a L. 79.078.496.558 con una crescita del 42,86%.

Infine l'Assemblea, con voto unanime, ha riconfermato per un altro triennio gli Amministratori scaduti nonchè l'intero Collegio Sindacale.

CENTROBANCA

BANCA CENTRALE DI CREDITO POPOLARE

Sede in Milano - Corso Europa n. 20
Iscritta al tribunale di Milano al n. 53177

Il 13 aprile 1984, nella sede sociale di Corso Europa n. 20, in Milano, si è riunita in seconda convocazione, sotto la presidenza del Cavaliere del Lavoro Lino Venini, l'Assemblea ordinaria e straordinaria dei Soci della Centrobanca.

In sede ordinaria l'Assemblea ha approvato il bilancio relativo all'esercizio 1983, che si chiude con un utile netto di L. 20.594.769.740 (comprese L. 1.208.798.181 quale utile netto della Sezione di Credito Agrario); il dividendo è stato deliberato nella misura del 10% in ragione d'anno. Al 31.12.1983 gli impieghi in essere ammontano a L. 2.502,5 miliardi e i mezzi amministrati a L. 4.589,1 miliardi.

Per effetto della conversione della seconda tranche di L. 25 miliardi del prestito obbligazionario convertibile di originarie L. 100 miliardi e di adeguati accantonamenti a riserva ed ai fondi rischi, il patrimonio netto al 31/12/1983 risulta di L. 300,1 miliardi (L. 235,6 miliardi al 31/12/1982).

Il capitale sociale è esclusivamente posseduto da Banche Popolari, dislocate sull'intero territorio nazionale.

A seguito della rinuncia dalla carica di Sindaco Effettivo del signor Franco Gazzola, l'Assemblea dei Soci ha provveduto ad integrare il Collegio Sindacale con la nomina del signor Giovanni Salsi.

In sede straordinaria l'Assemblea ha approvato modifiche ad alcuni articoli dello Statuto sociale.

Gli Organi sociali sono così composti:

Consiglio di Amministrazione: Presidente Cavaliere del Lavoro Lino Venini; Vice Presidenti i signori Lorenzo Suardi e Aldo Cova; Consiglieri i signori Giancarlo Bellemo, Franco Carniglia, Giovanbattista Cartia, Antonio Ceola, Gianfrancesco Del Nero, Giovanbattista Fiorentini, Angelo Guerra, Angelo Mazza, Marcello Melani, Piero Melazzini, Carlo Pavesi, Massimo Pinelli, Giorgio Pulini, Giancarlo Rossi, Michele Stacca, Giuseppe Vigorelli.

Segretario del Consiglio è il Direttore Generale Marcello Gentile.

Collegio Sindacale: Presidente Cavaliere del Lavoro Francesco Parrillo; Sindaci Effettivi i signori Pietro Agnoluzzi, Ottavio Fontanesi, Umberto Menesatti, Giovanni Salsi; Sindaci Supplenti i signori Josef Froschmayr, Onorato Ortelli.

SINTESI DEL BILANCIO CONSOLIDATO AL 31 DICEMBRE 1983
(in miliardi di Lire)

ATTIVO		PASSIVO	
Disponibilità e titoli	1.734,8	Certificati di deposito	3.163,5
Impieghi in essere	2.502,5	Prestiti obbligazionari	913,8
Altri conti	638,8	Provvista sull'estero	129,9
	4.876,1	Corrispondenti creditori	26,3
		Fondi da Enti ed Istituzioni pubbliche	33,8
Impegni per domande accolte	583,0	Altri conti	300,6
			4.567,9
		Patrimonio sociale (*)	287,6
		Utile netto d'esercizio	20,6
			4.876,1

(*) 300,1 dopo il riparto utile.

CASSA DI RISPARMIO DI ALESSANDRIA

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Sportello presso Mercato Ortofrutticolo - Alessandria
Sportello stagionale in Voltaggio.

DAL 1838 AL TUO SERVIZIO DOVE VIVI E LAVORI

CASSA DI RISPARMIO DELLA PROVINCIA DI CHIETI

FONDATA NEL 1862

L'Assemblea dei Soci della Cassa di Risparmio della Provincia di Chieti ha approvato il 25 marzo 1984 il rendiconto dell'esercizio (118°) chiuso il 31 dicembre 1983 che presenta le seguenti risultanze (compresi i conti d'ordine):

ATTIVO L. 1.838.487.337.243
PASSIVO L. 1.837.585.179.996
UTILE NETTO L. 902.157.247

Principali voci di bilancio:

ATTIVO: Cassa 5.209 milioni; Corrispondenti e depositi presso altri Istituti 230.612 milioni; Titoli di proprietà 336.373 milioni; Portafoglio 17.900 milioni; Conti correnti 111.532 milioni; Mutui ad Enti e privati 58.836 milioni.

PASSIVO: Depositi fiduciari a risparmio ed in c/c 753.842 milioni; Corrispondenti 19.496 milioni; Creditori diversi e partite varie 27.629 milioni; Fondi di quiescenza del personale 21.382 milioni; Fondi diversi 56.332 milioni; Fondi di terzi in amministrazione 6.323 milioni; Patrimonio 39.413 milioni.

Presidente
DI MARZIO Geom. Domenico Dante

Direttore Generale
MELENA Dott. Gino

Direttore responsabile: Aldo Montesano - Autorizz. Tribunale di Treviso N. 113 del 22-10-54

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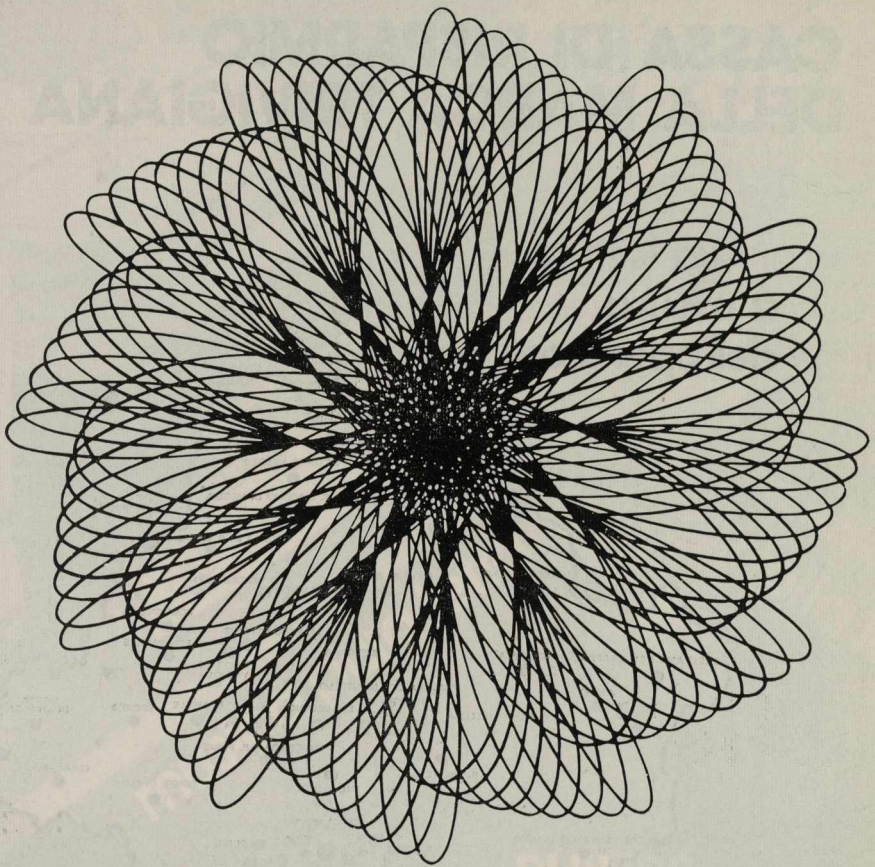

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CASSA DI RISPARMIO DELLA MARCA TRIVIGIANA

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CARIPLO

CASSA DI RISPARMIO DELLE PROVINCIE LOMBARDE

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